

FIG. 1

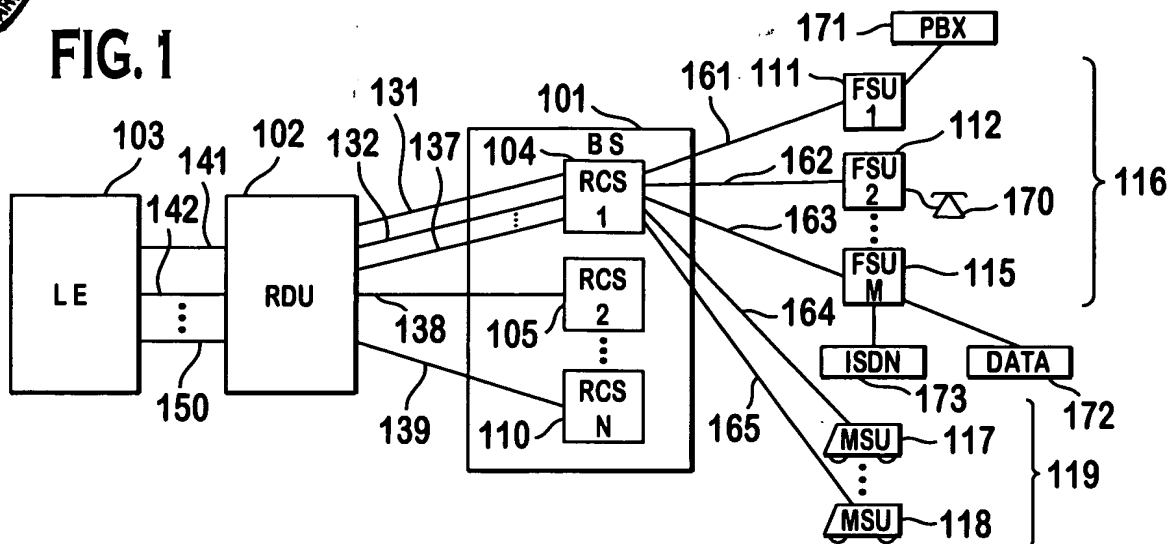


FIG. 2A

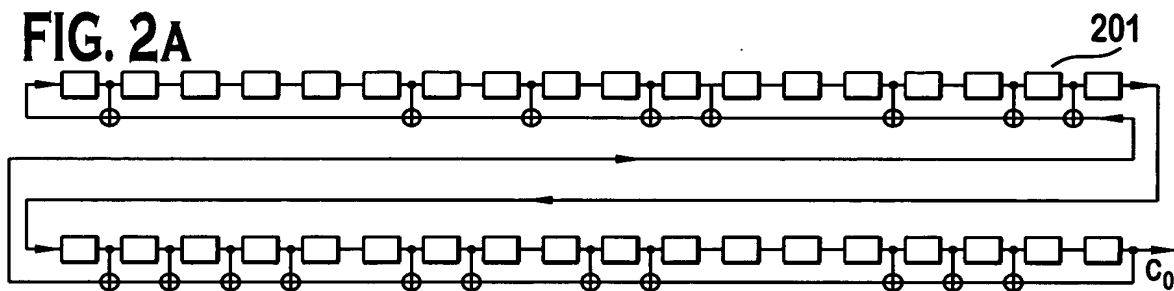


FIG. 2B

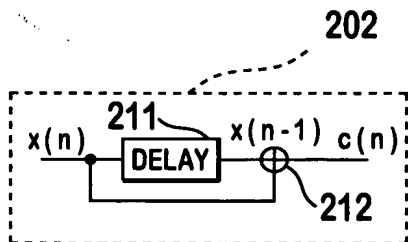
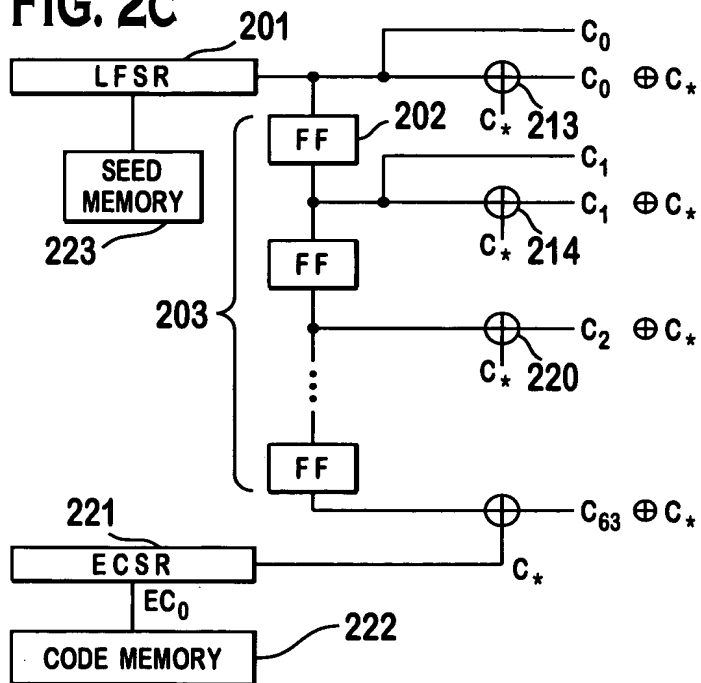
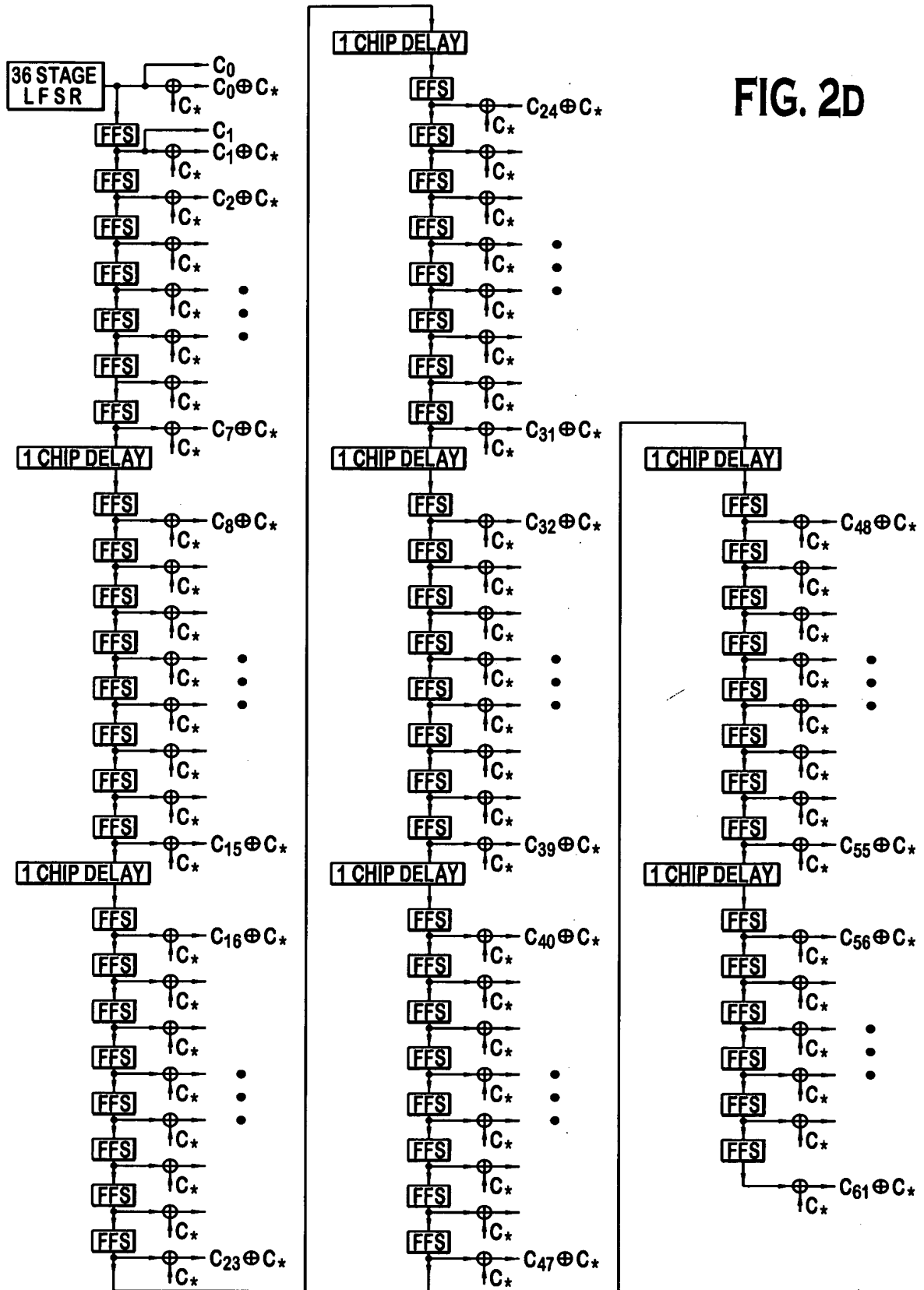


FIG. 2C





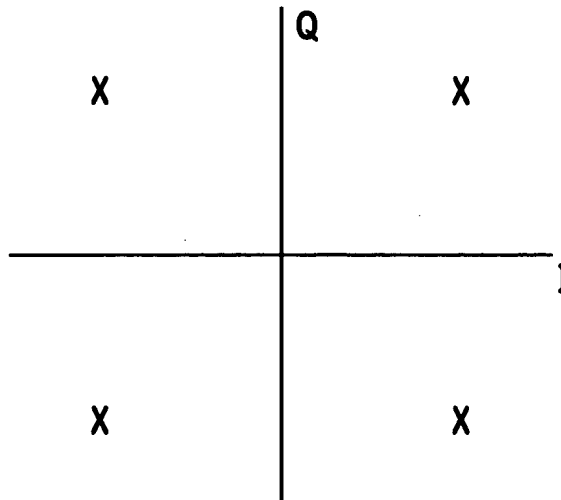


FIG. 3A

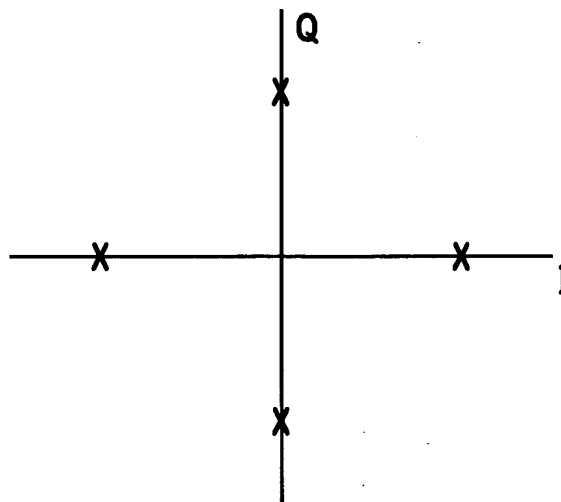


FIG. 3B

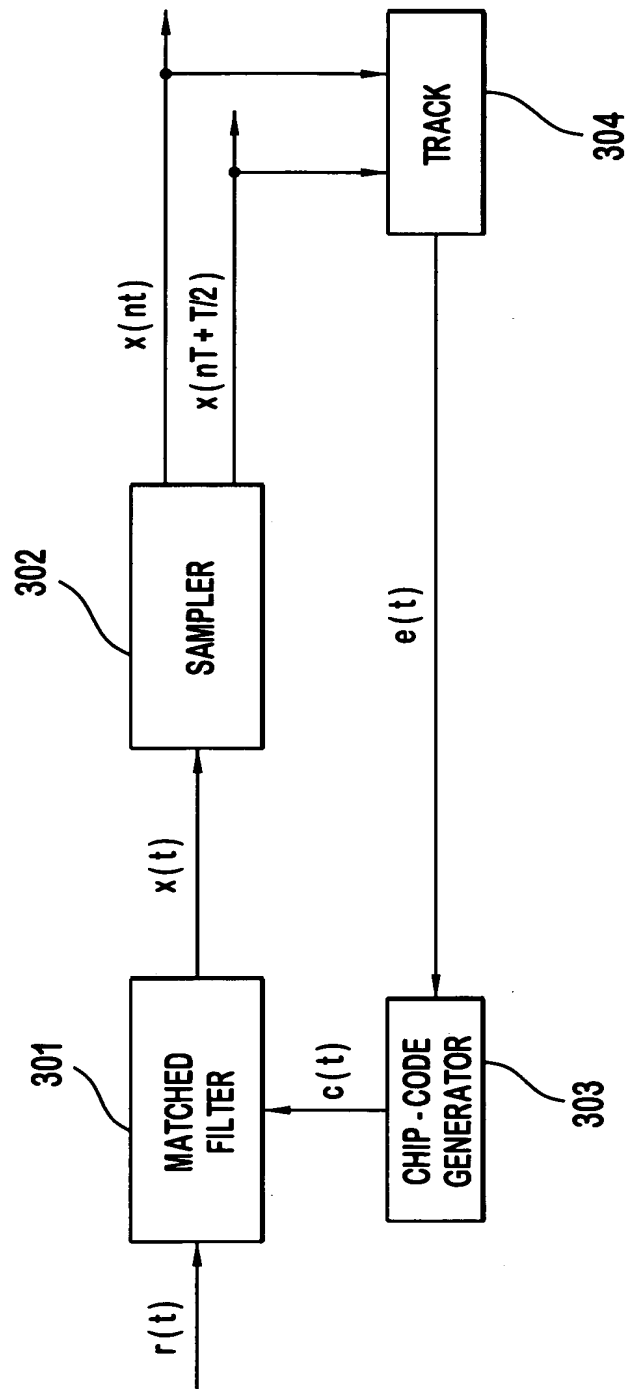


FIG. 3C

FIG. 4

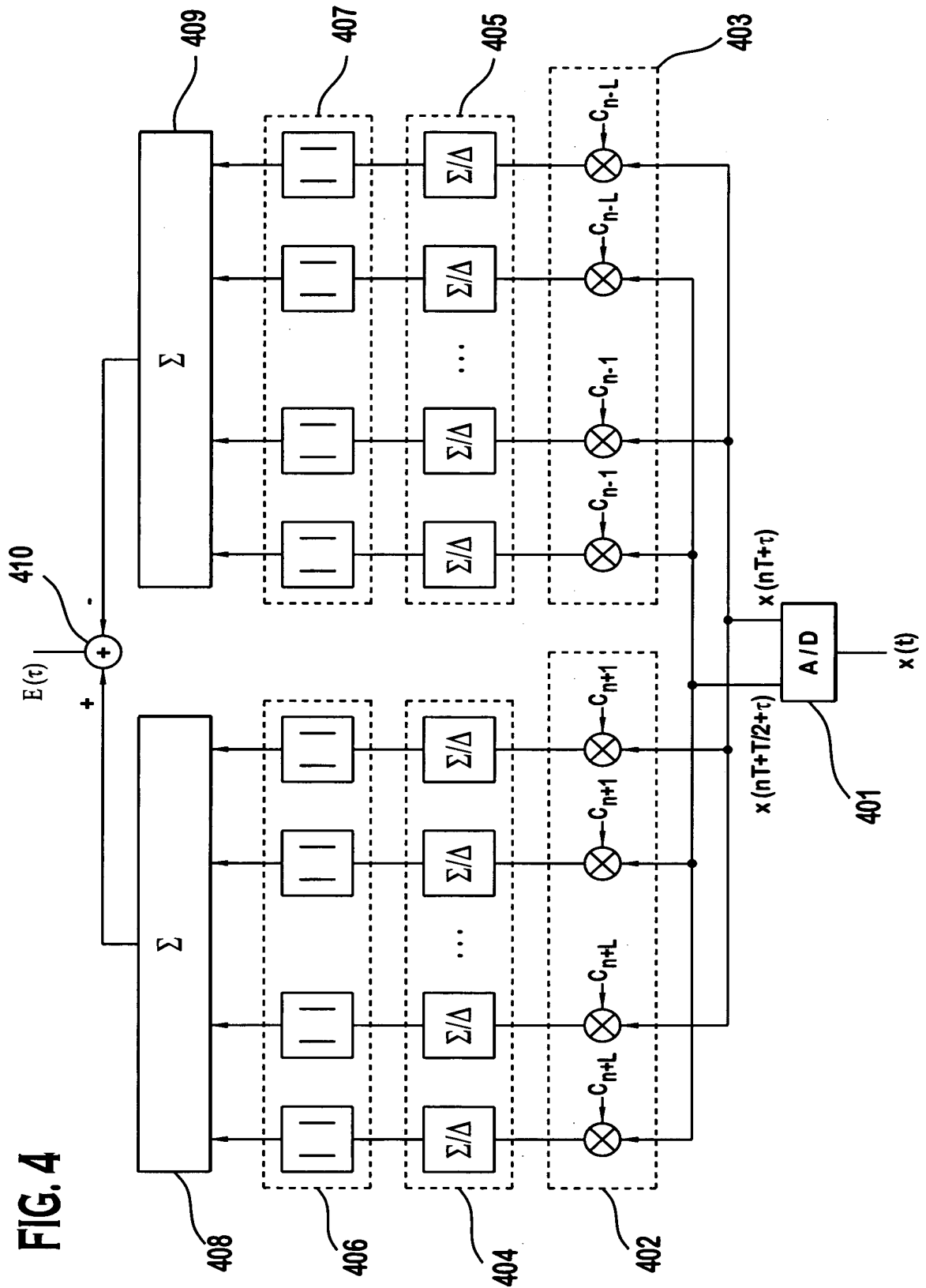


FIG. 5A

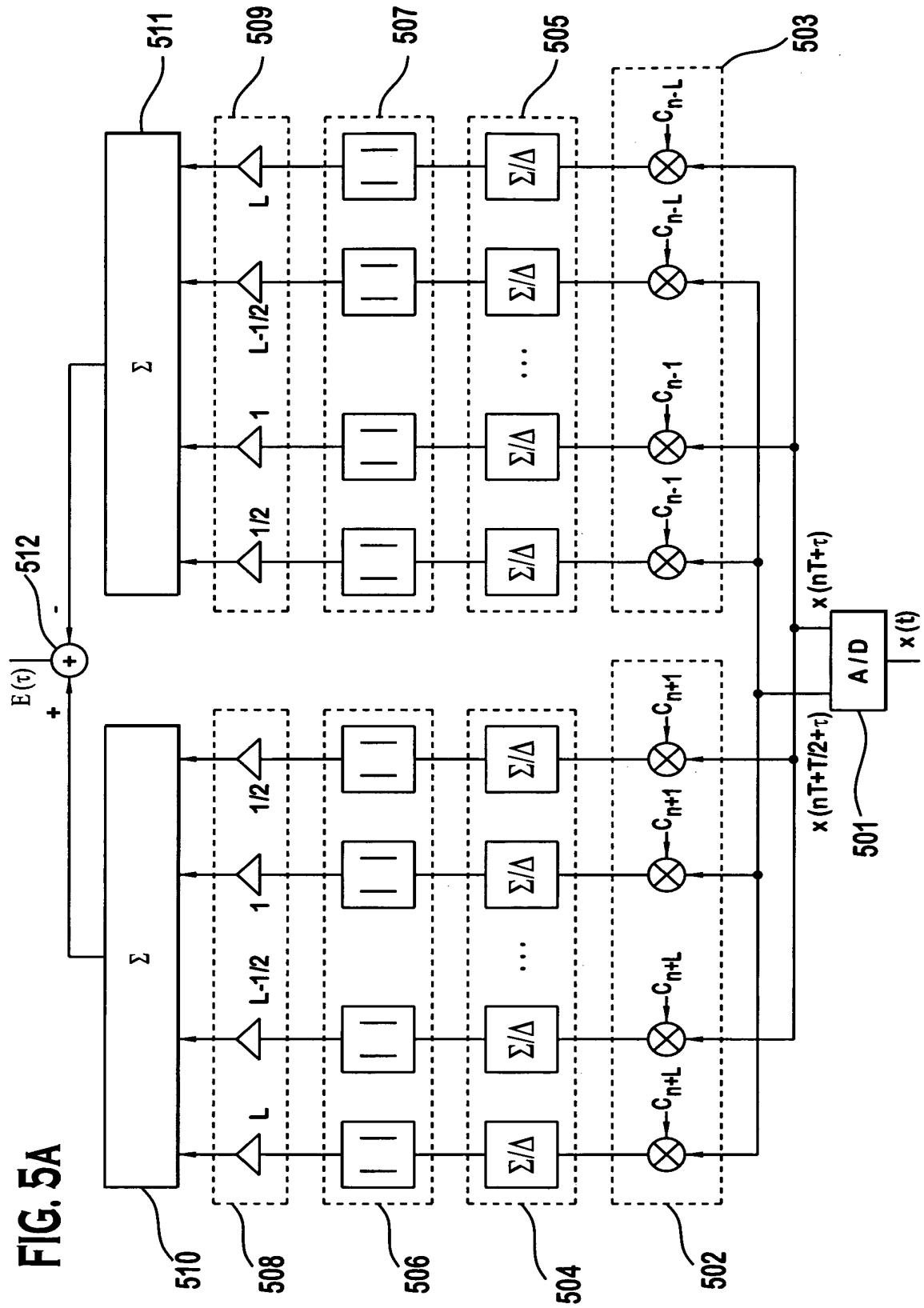
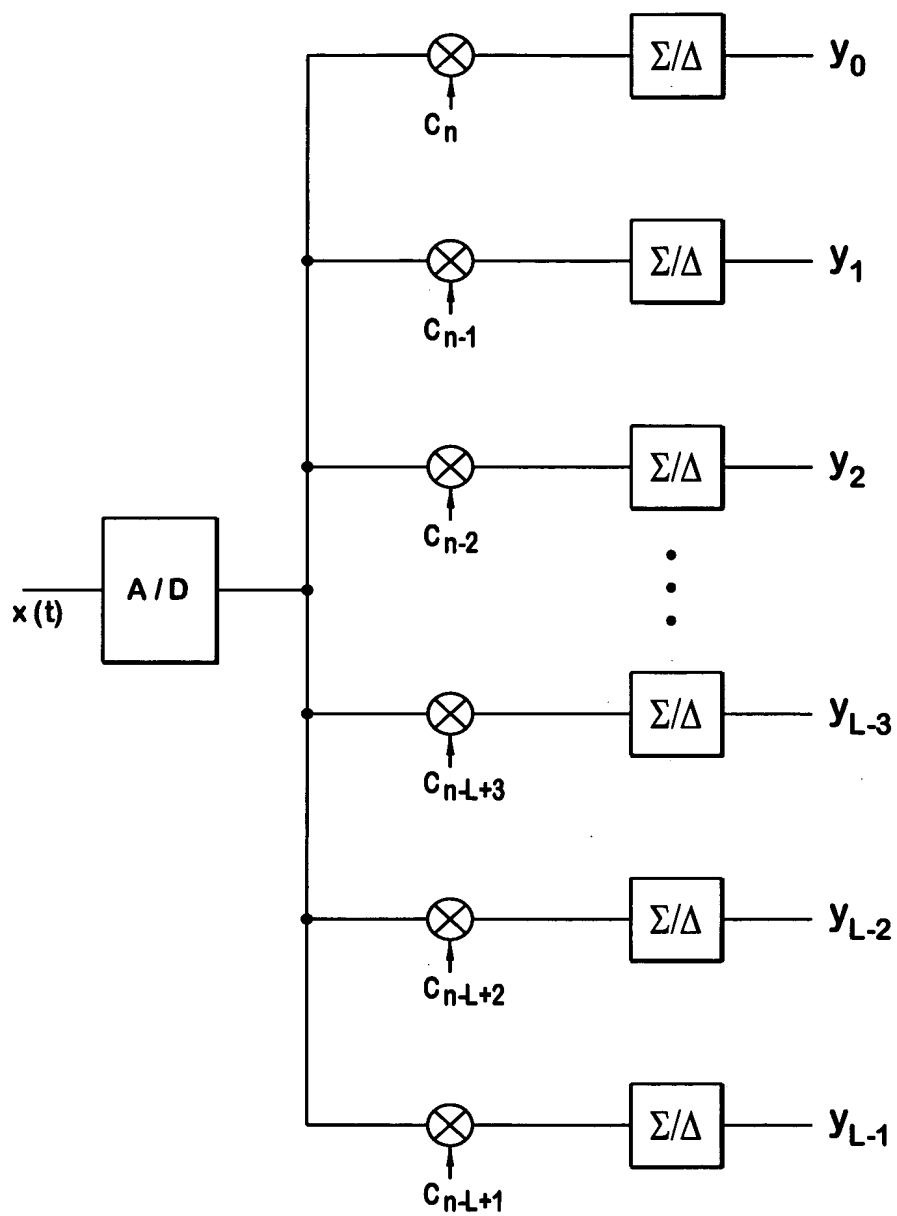


FIG. 5B



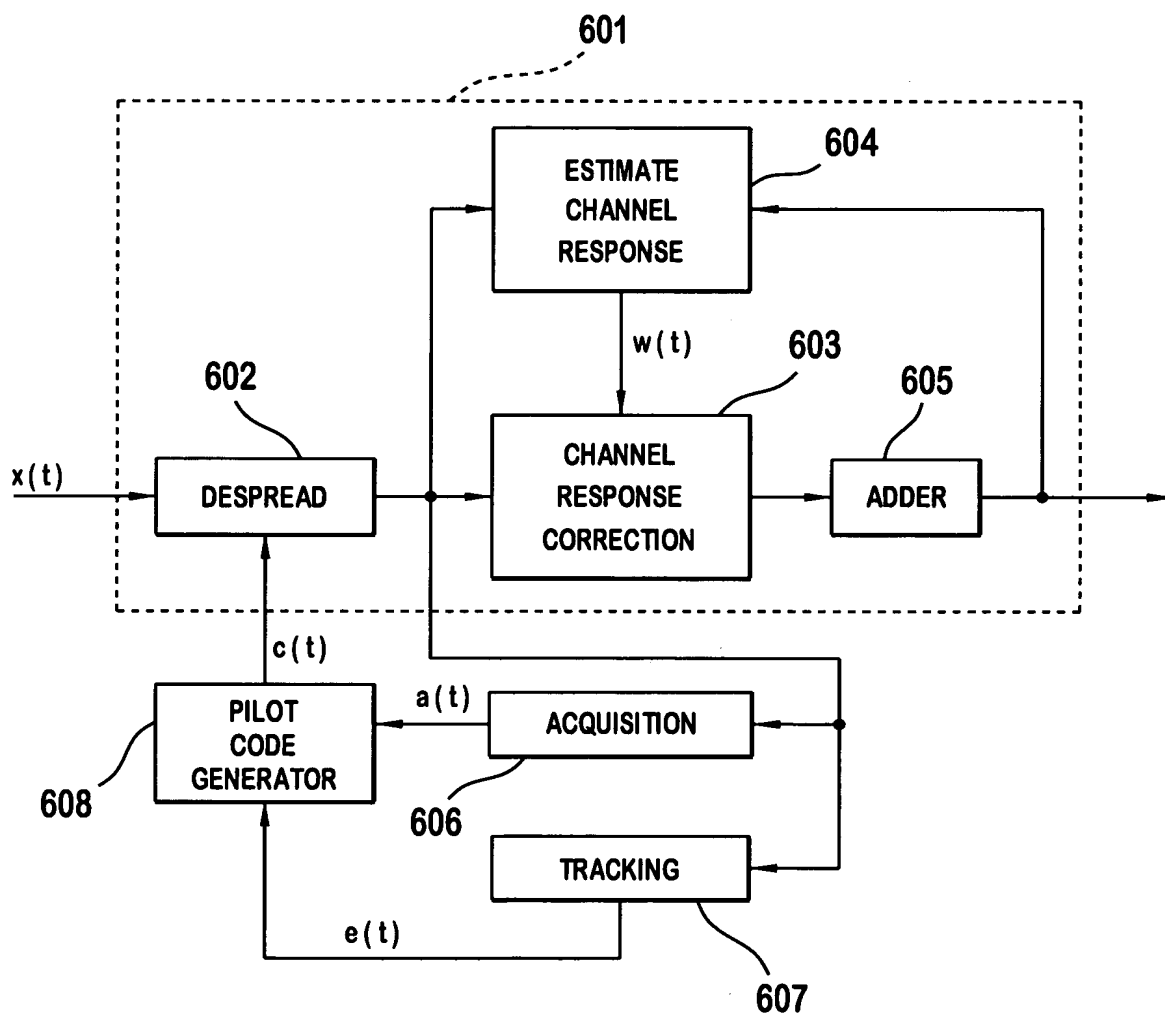


FIG. 6

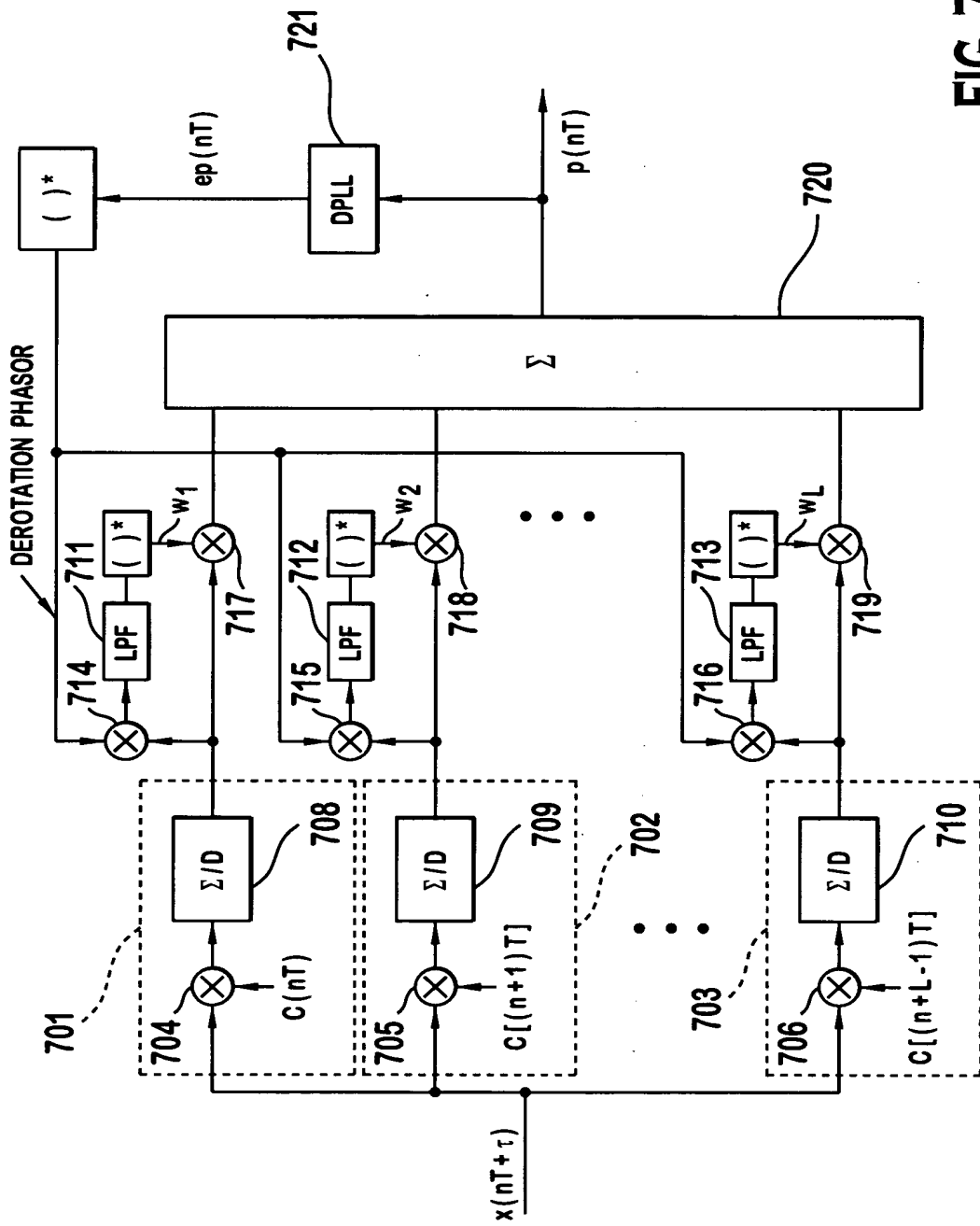


FIG. 7

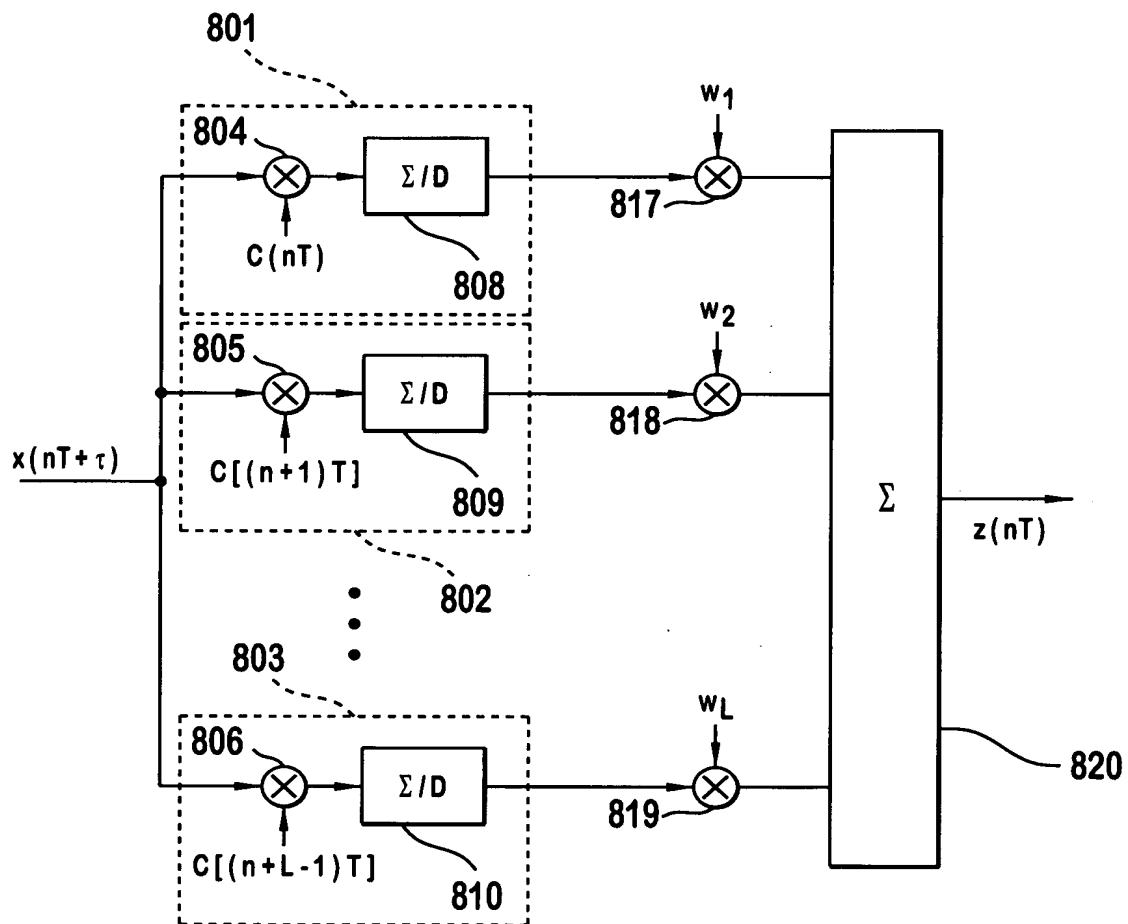


FIG. 8A

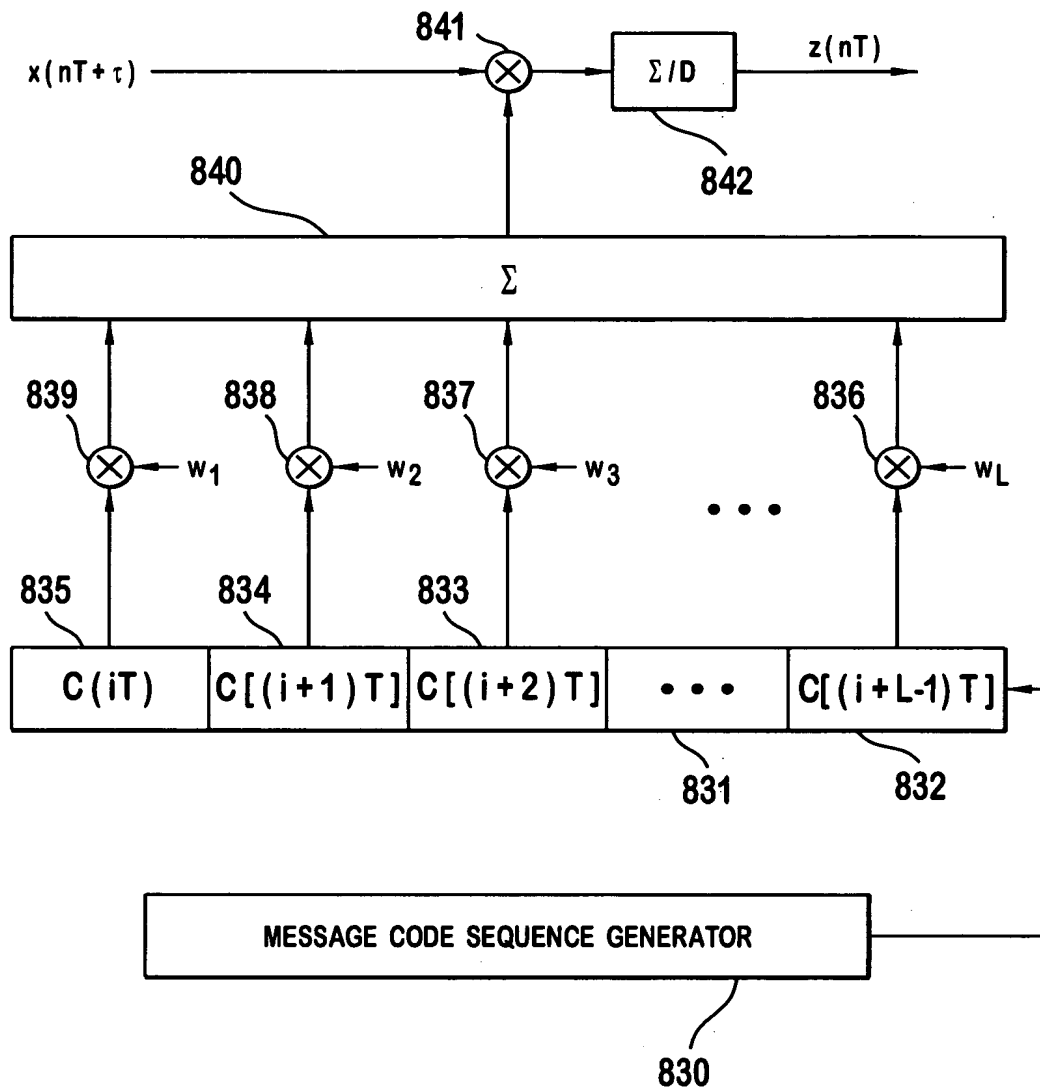


FIG. 8B

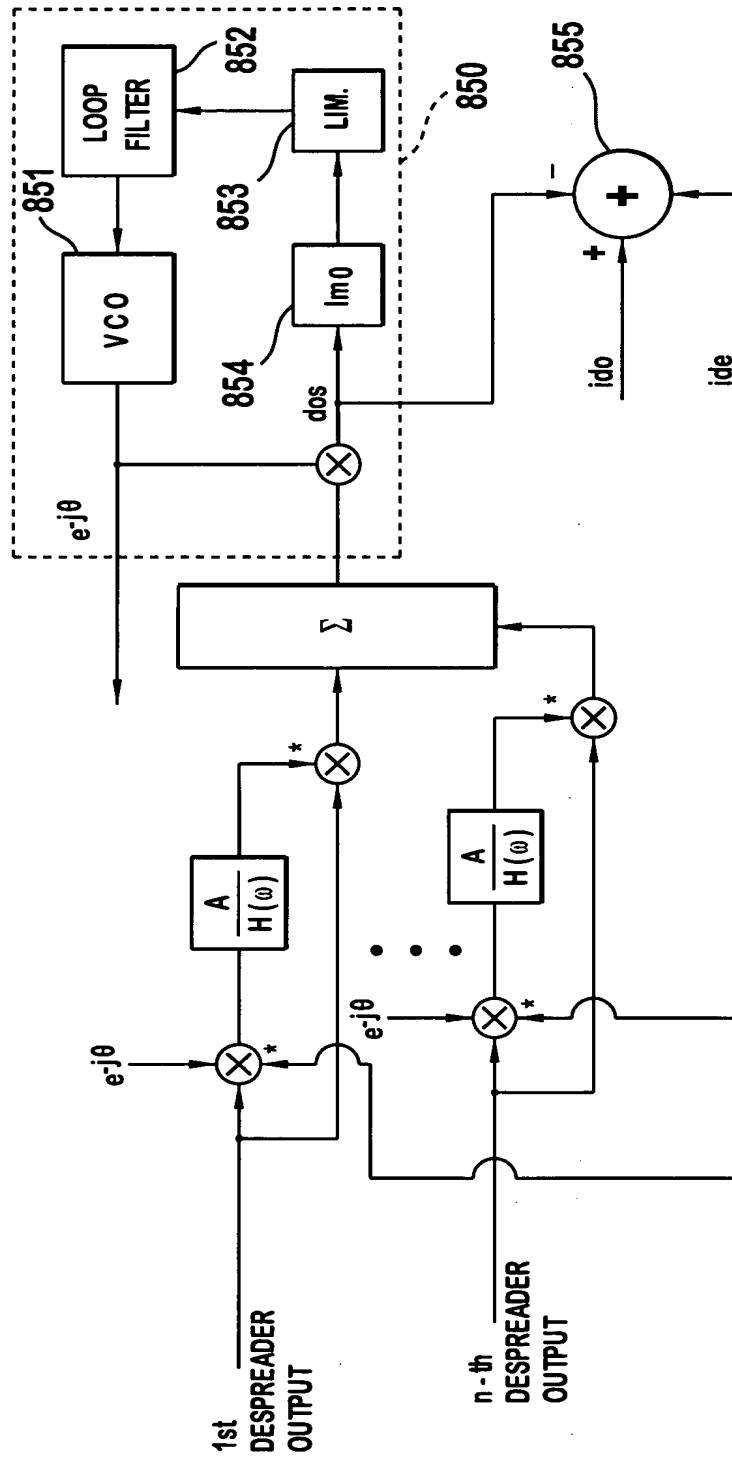


FIG. 8C

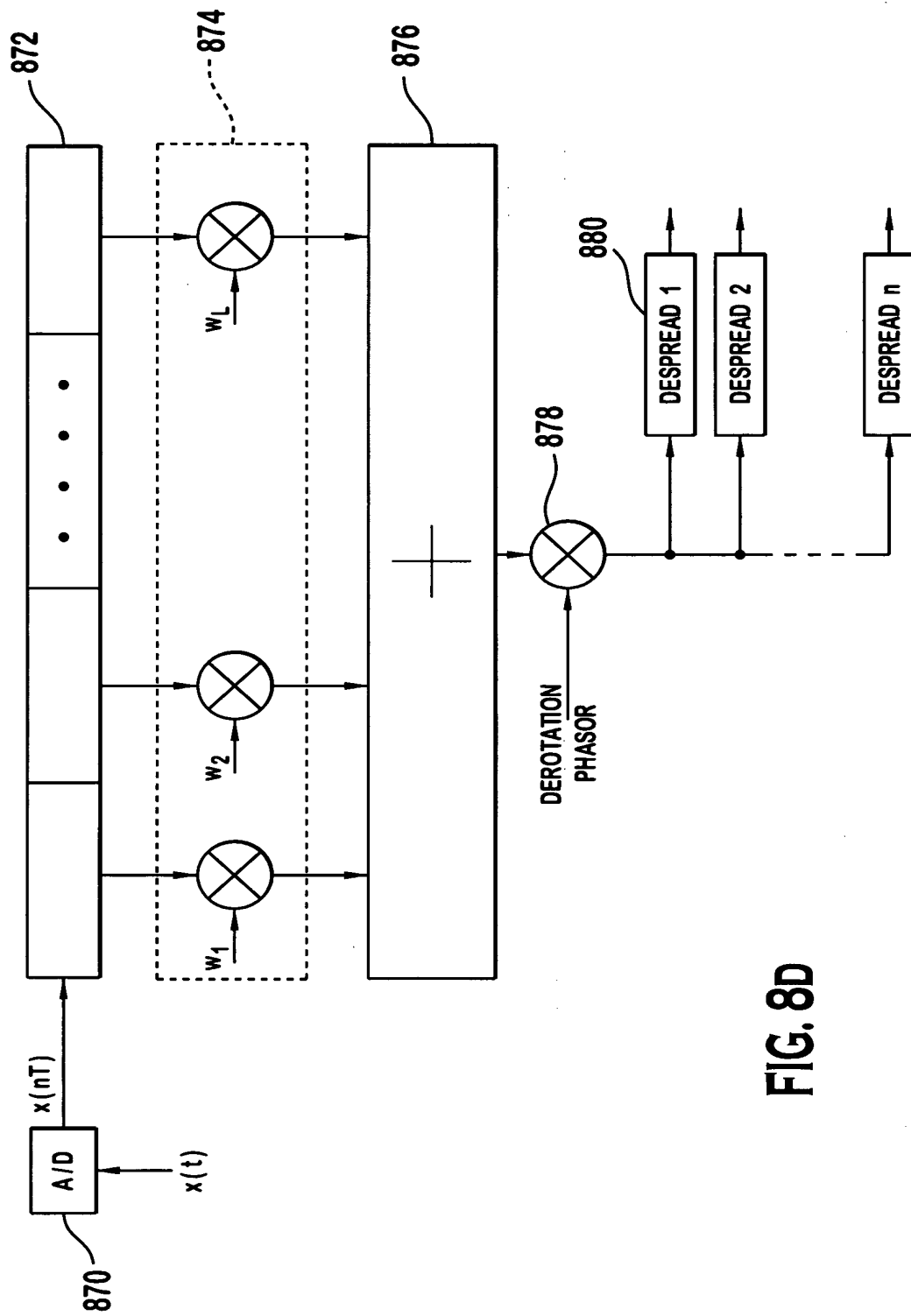


FIG. 8D

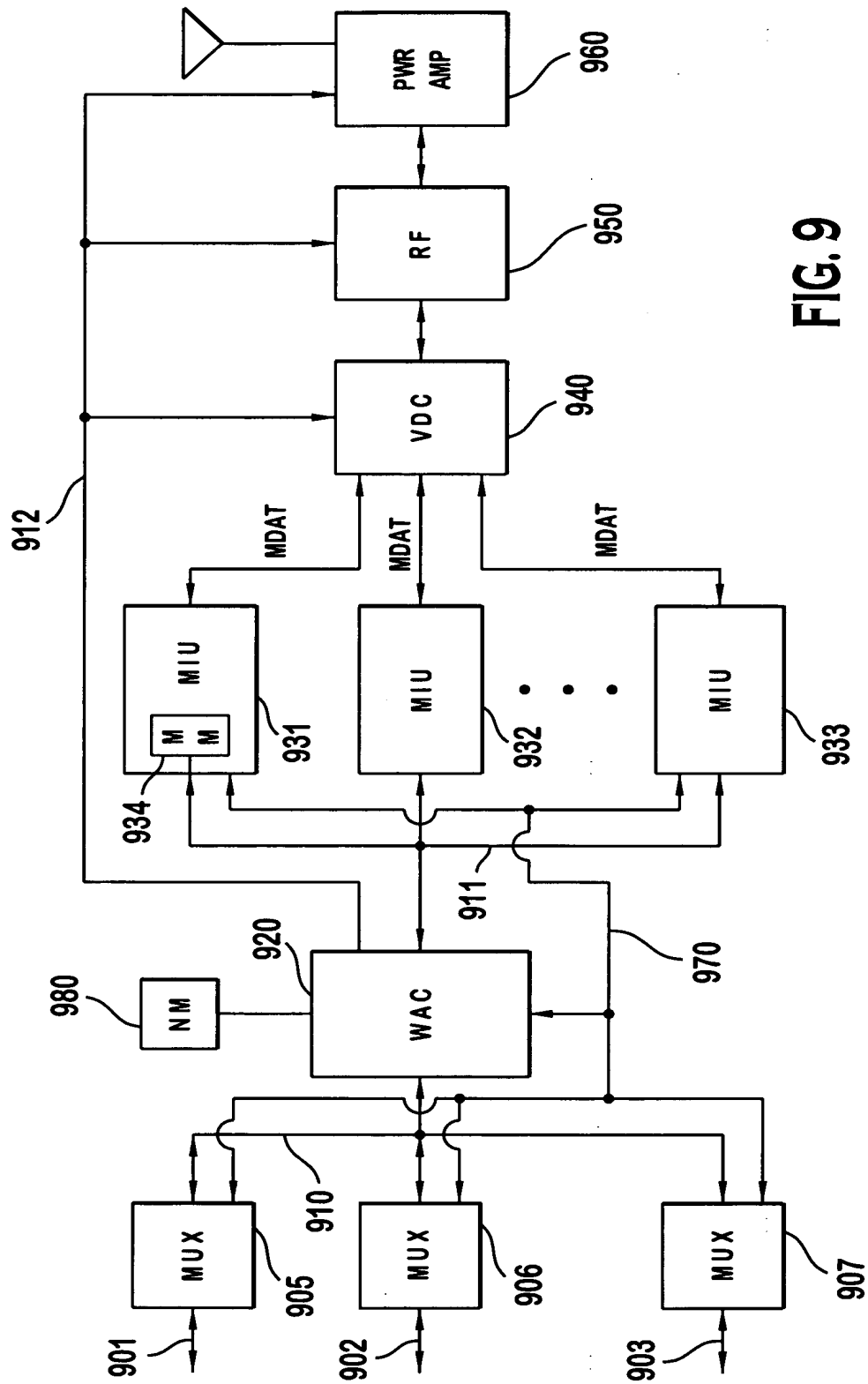


FIG. 9

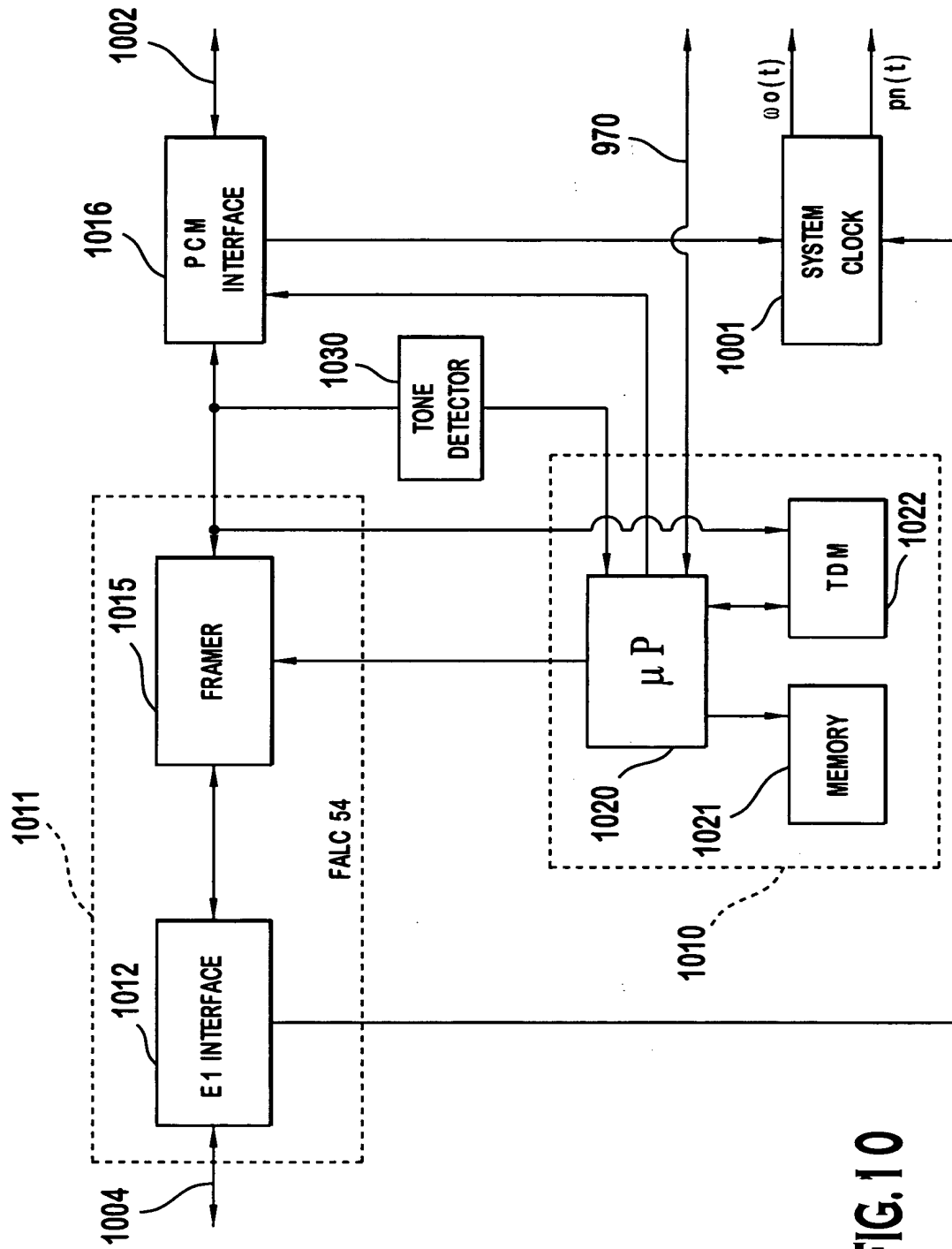
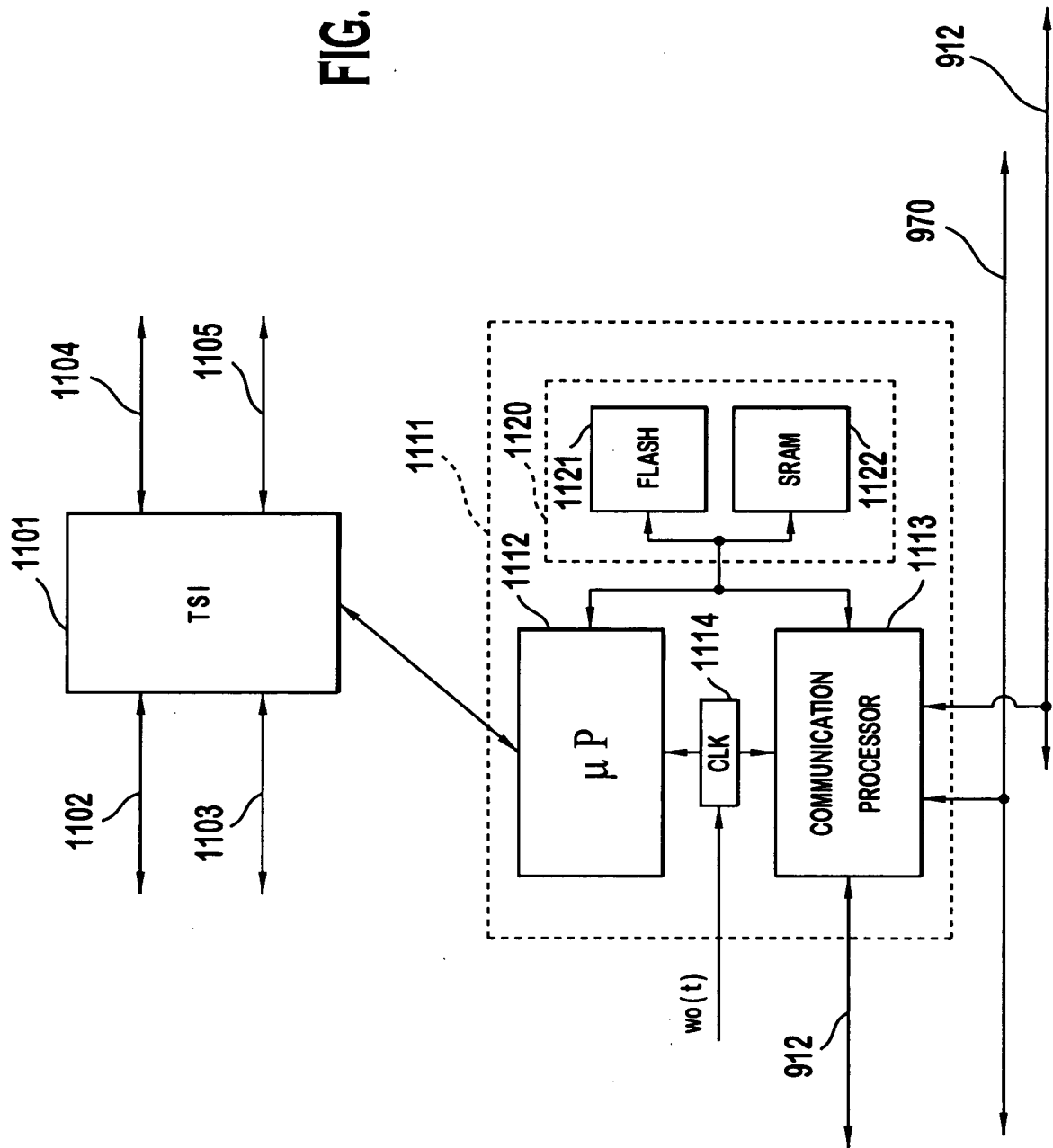
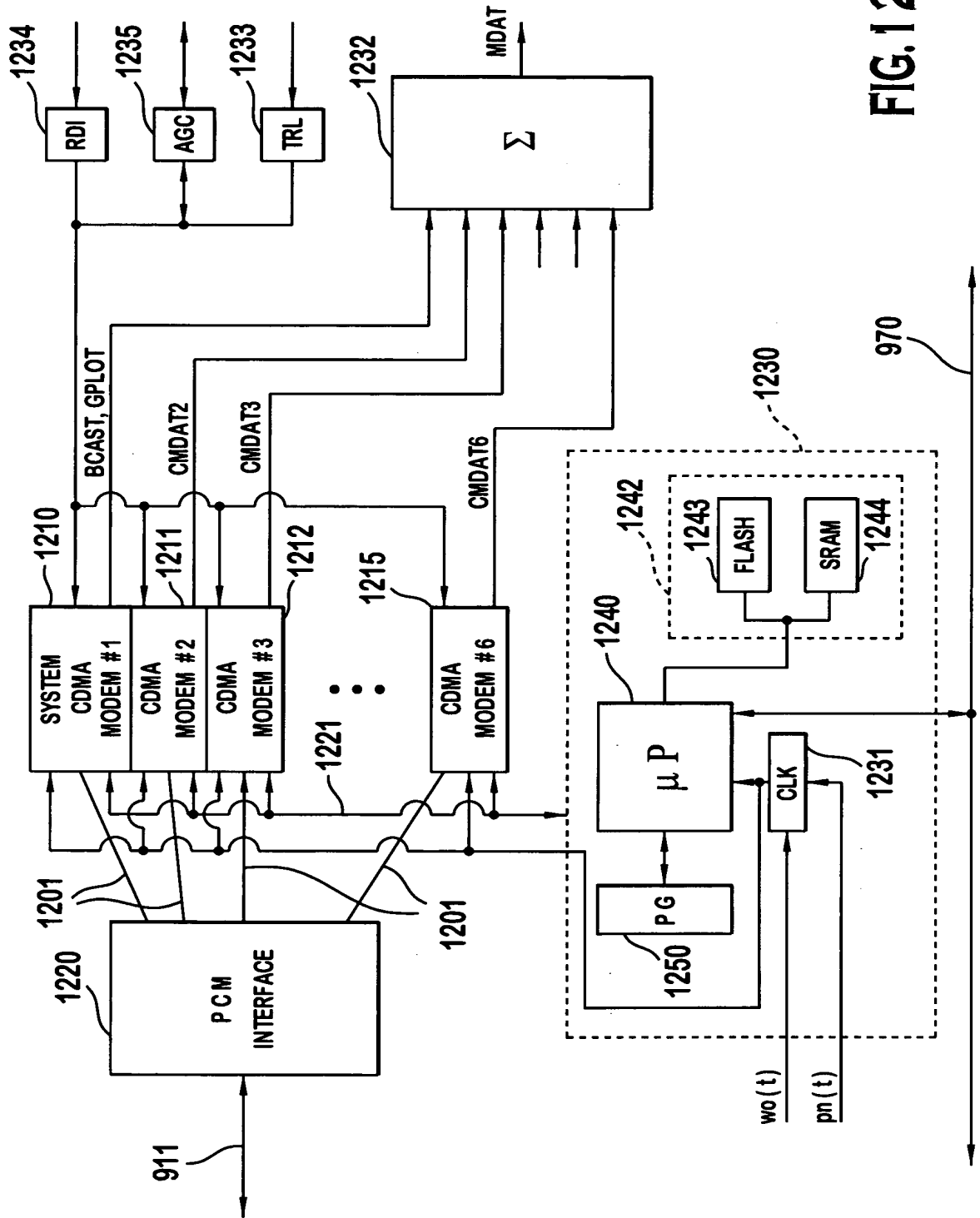


FIG. 10

FIG. 11





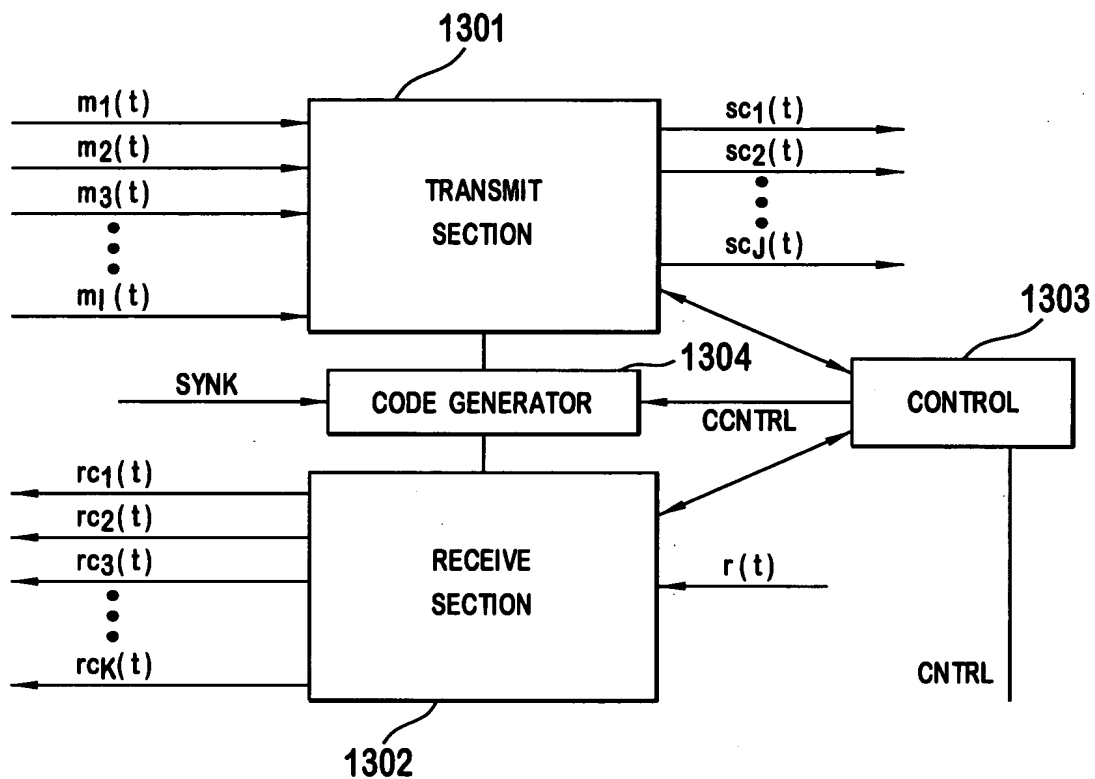


FIG. 13

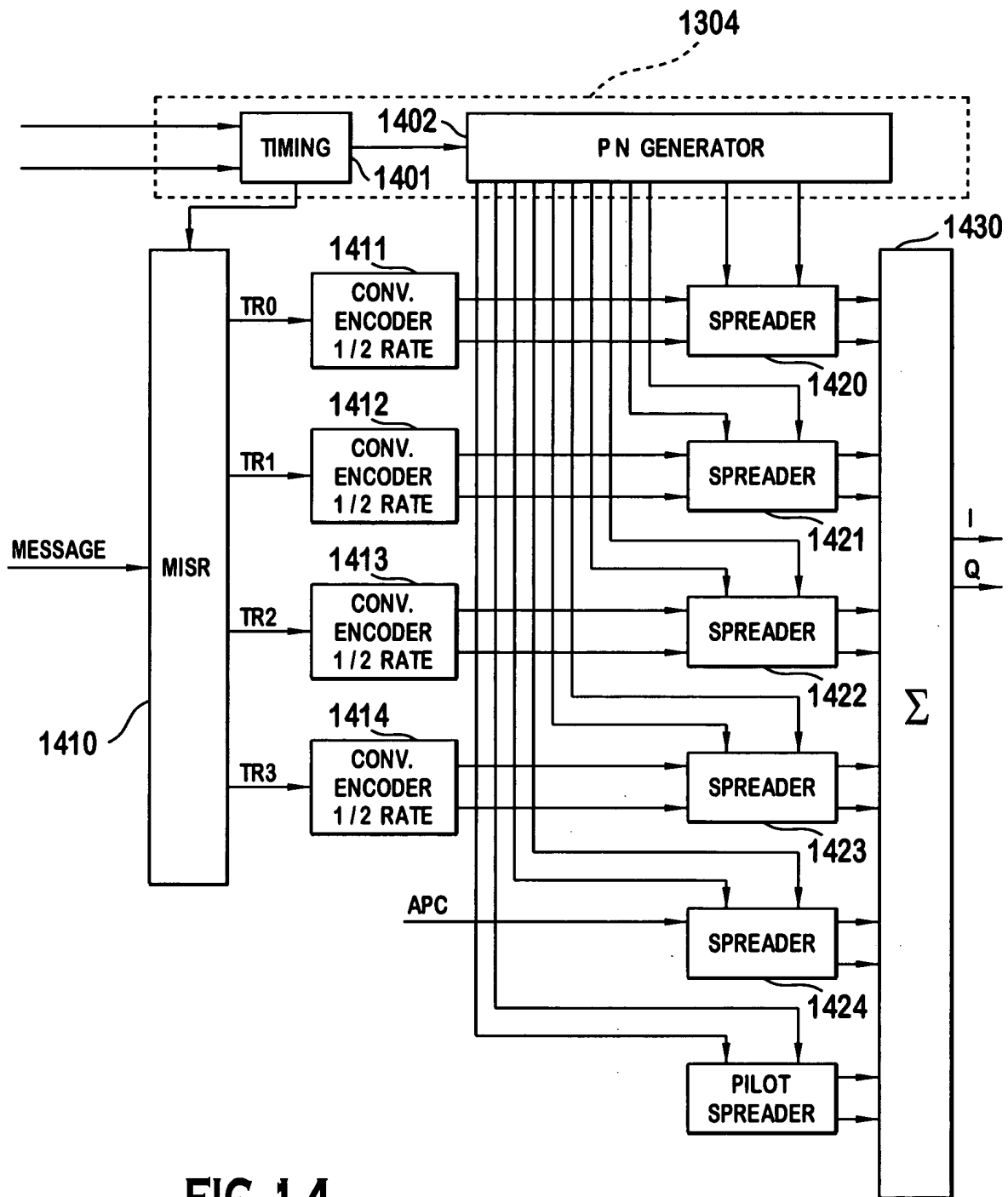
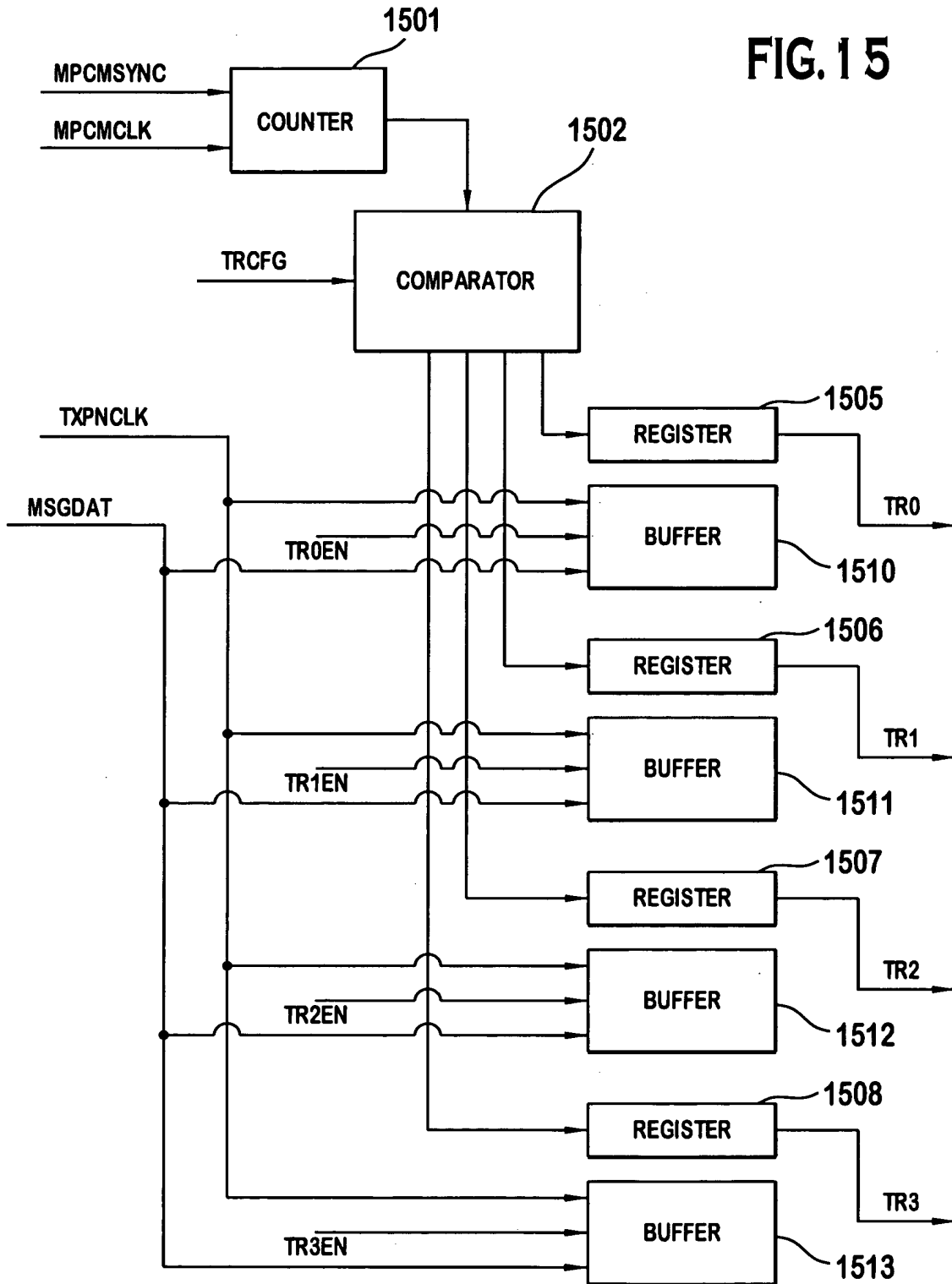


FIG. 14

FIG. 15



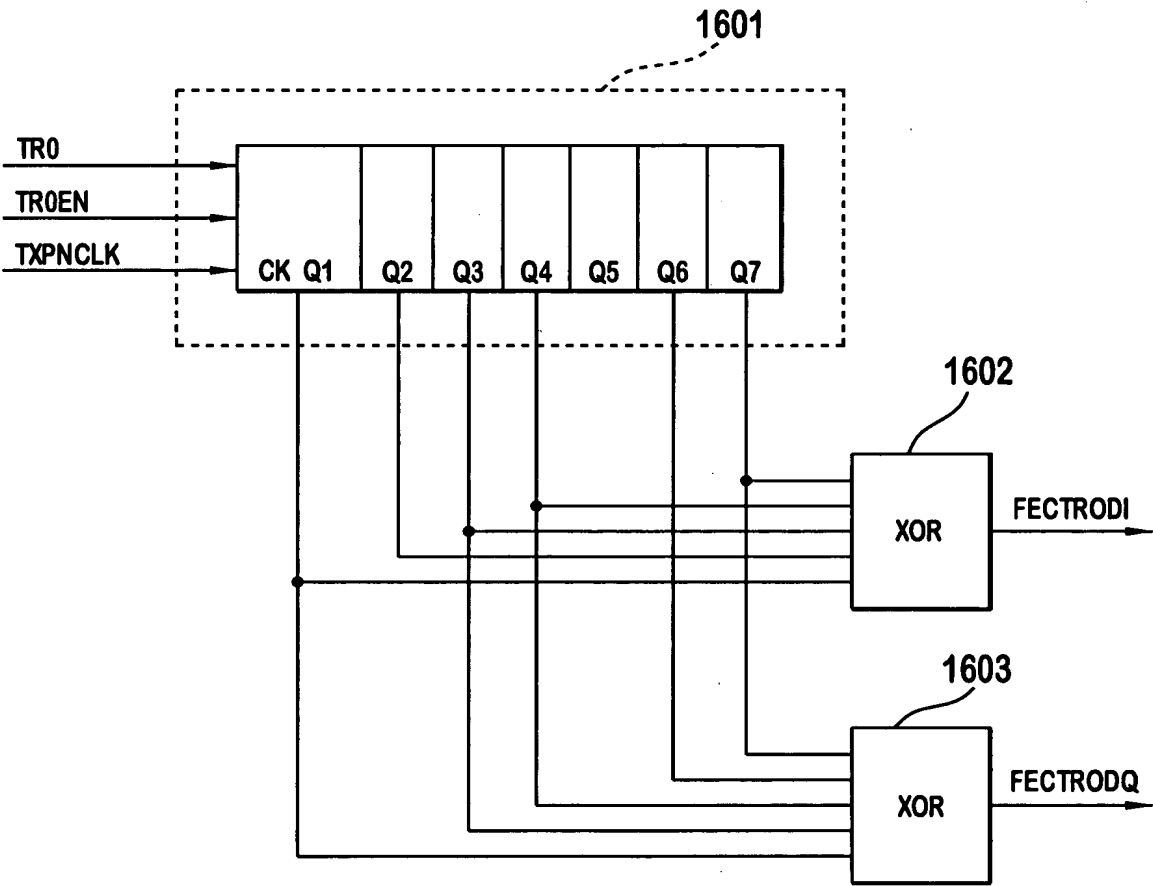


FIG. 16

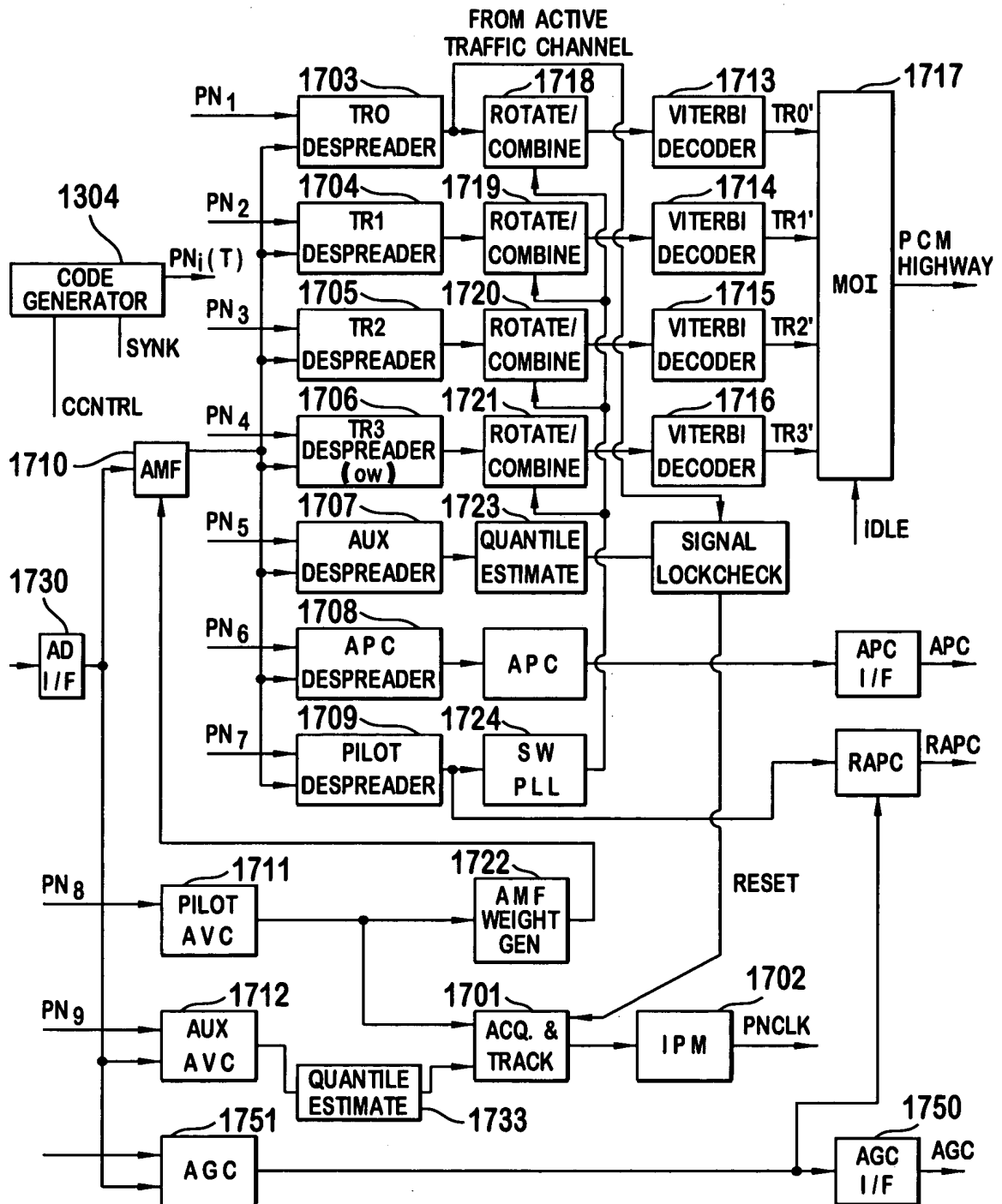


FIG. 17

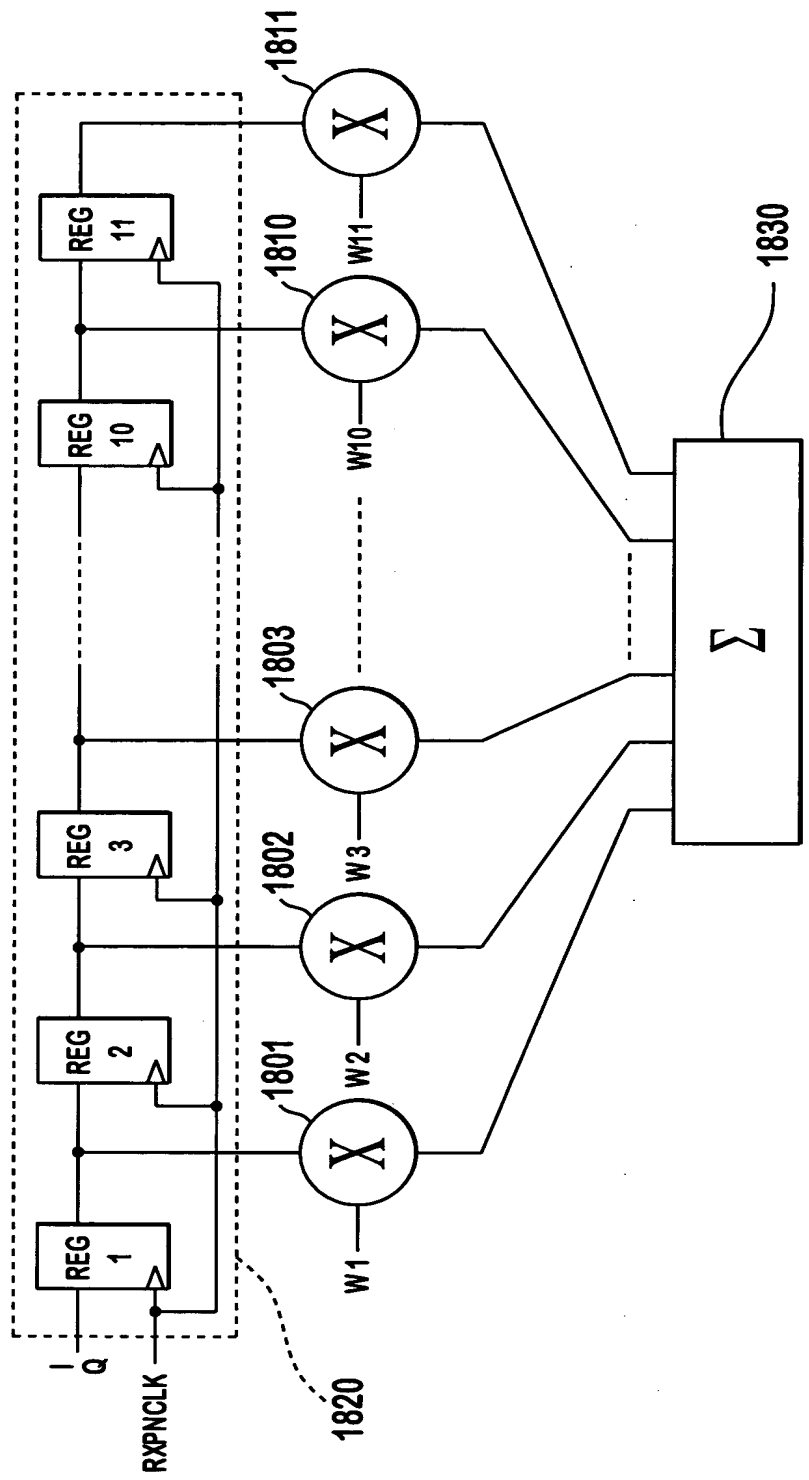


FIG. 18

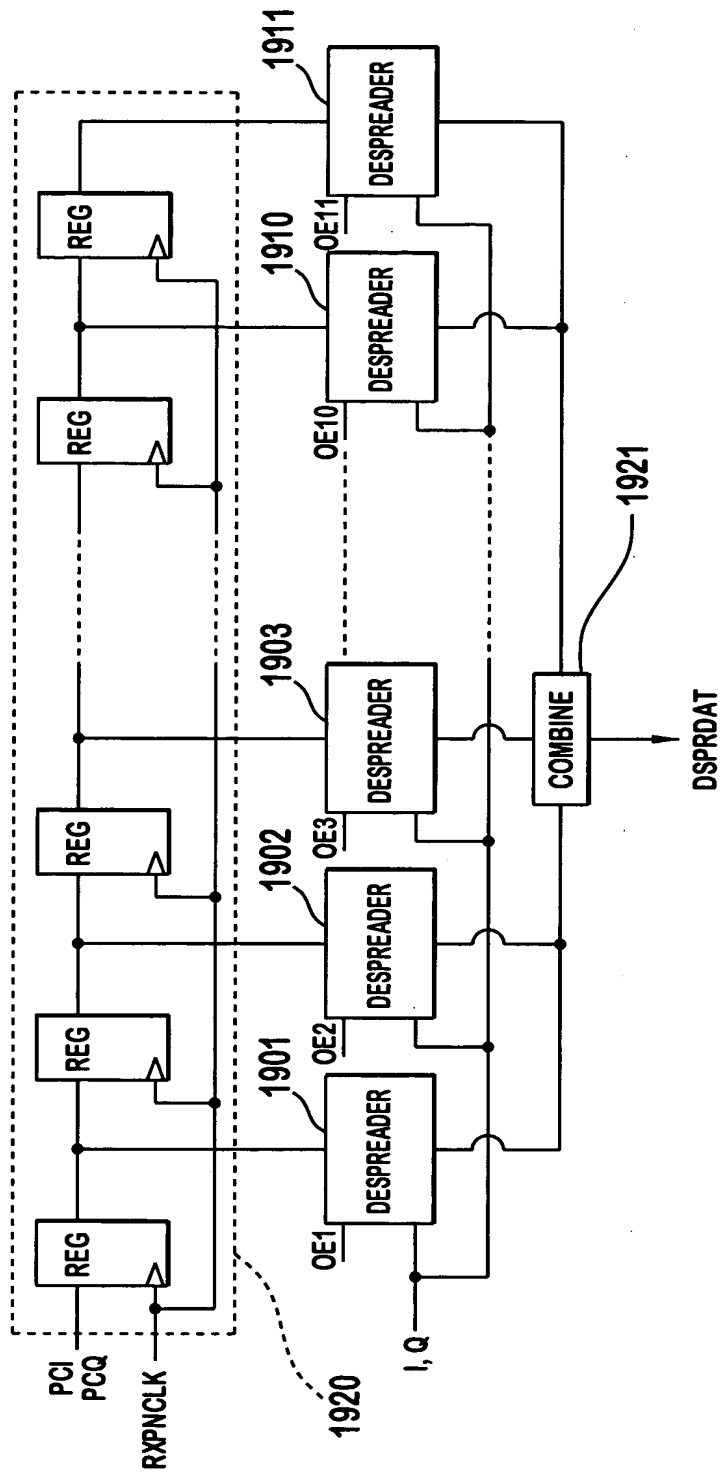


FIG. 19

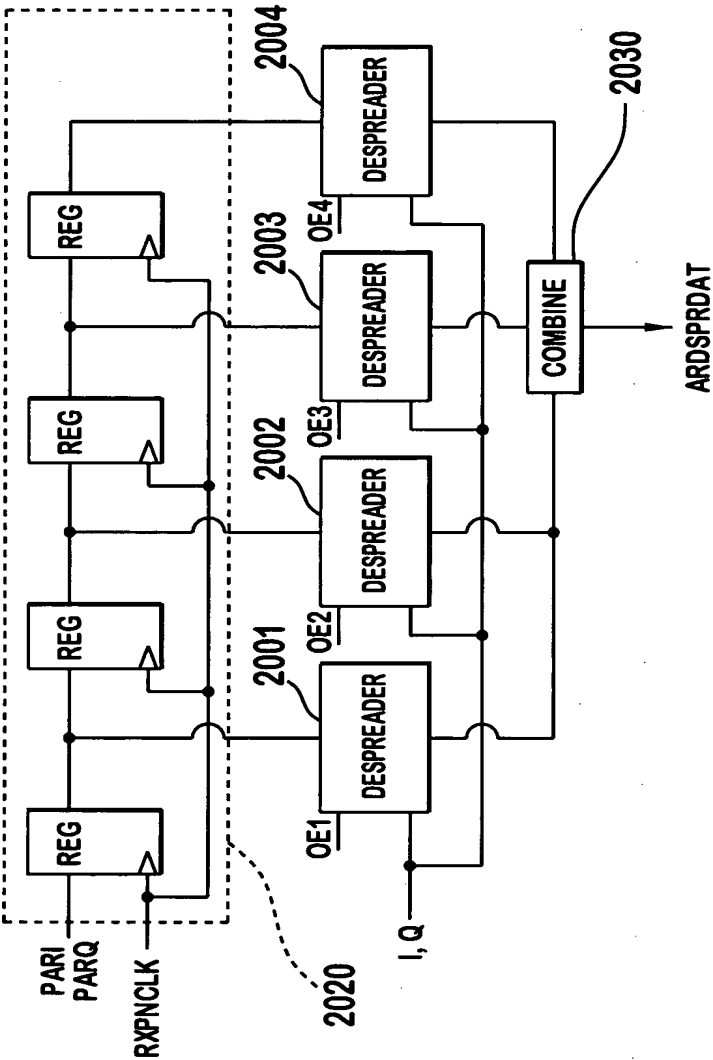
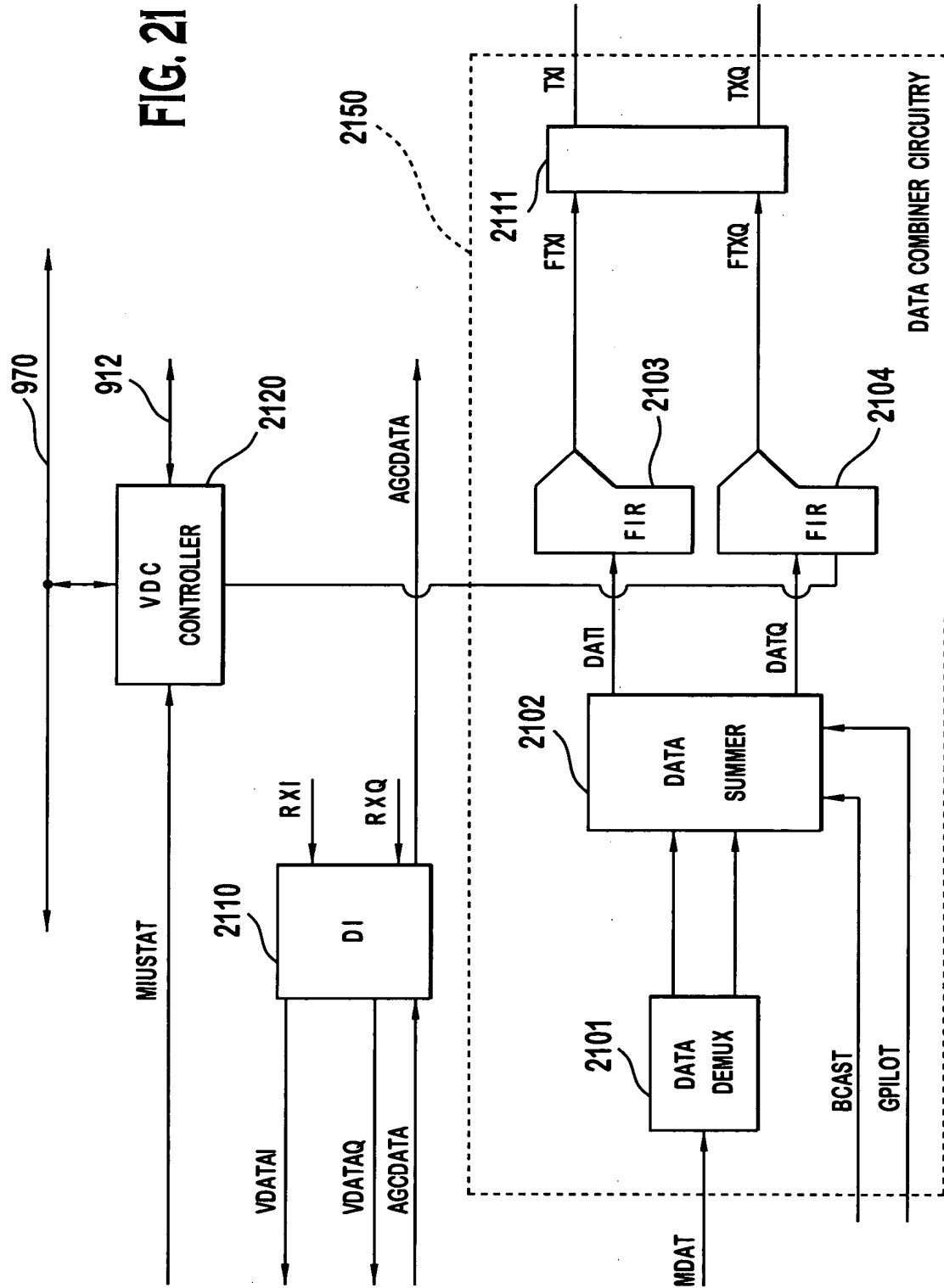


FIG. 20



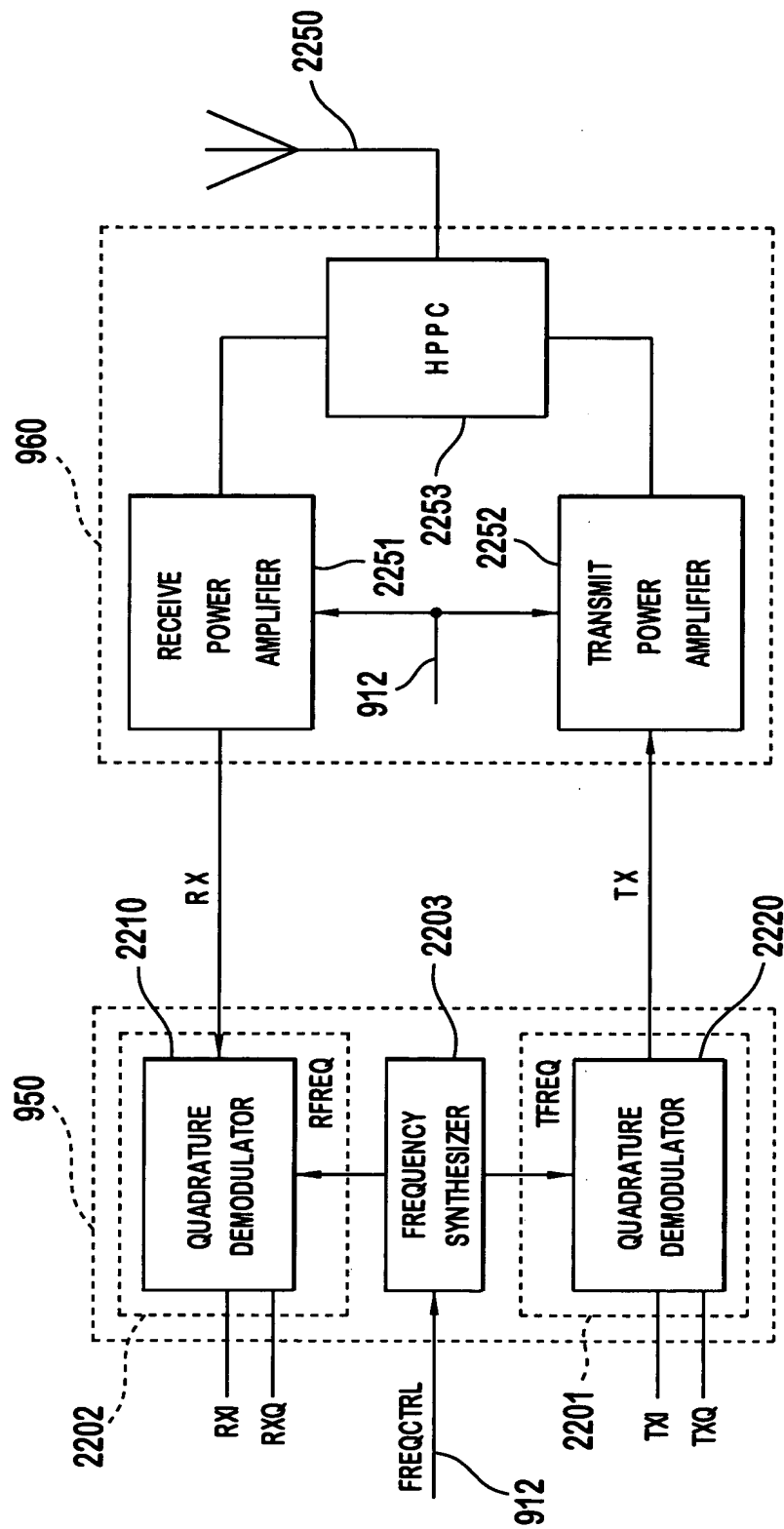


FIG. 22

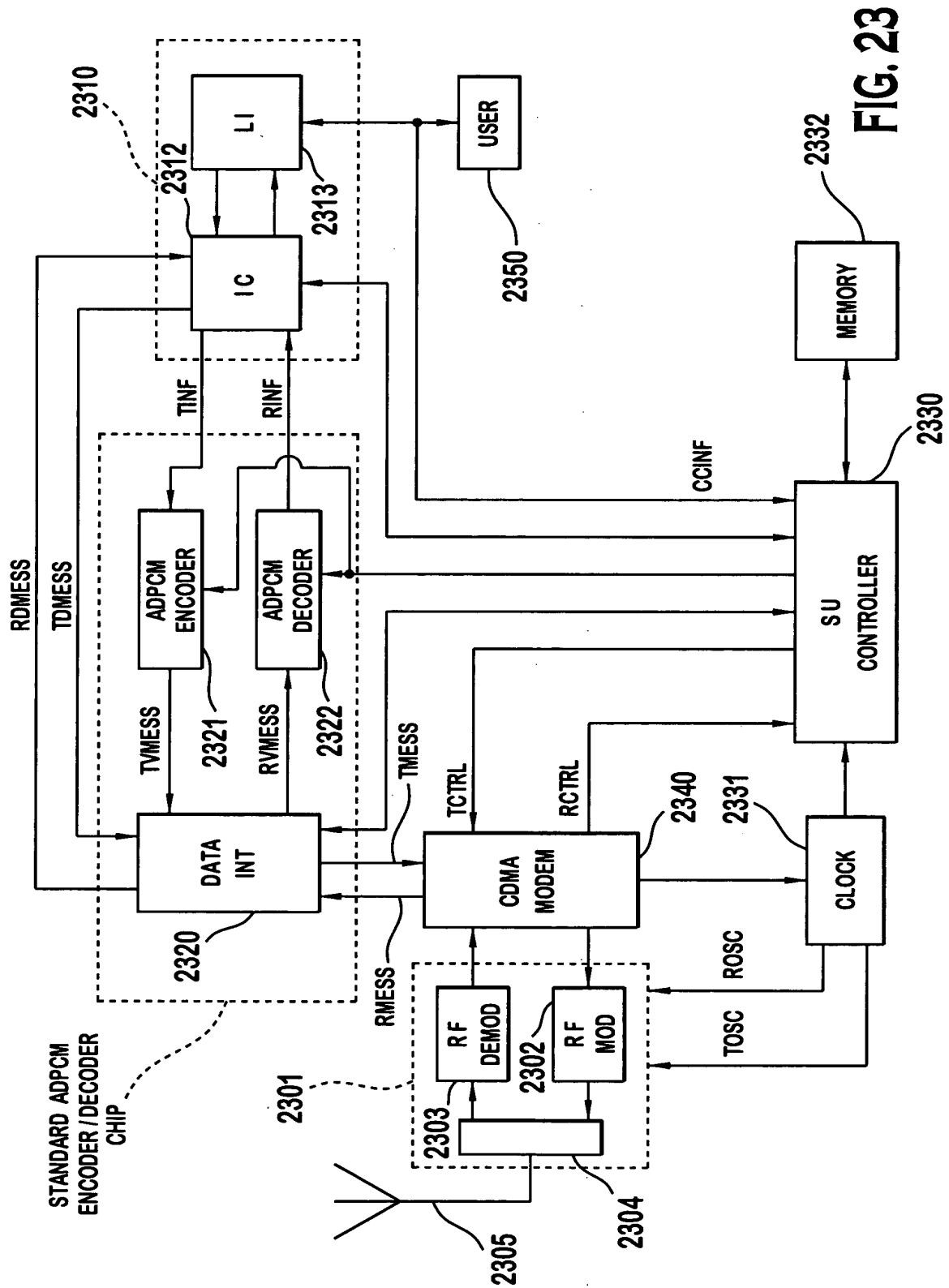


FIG. 23

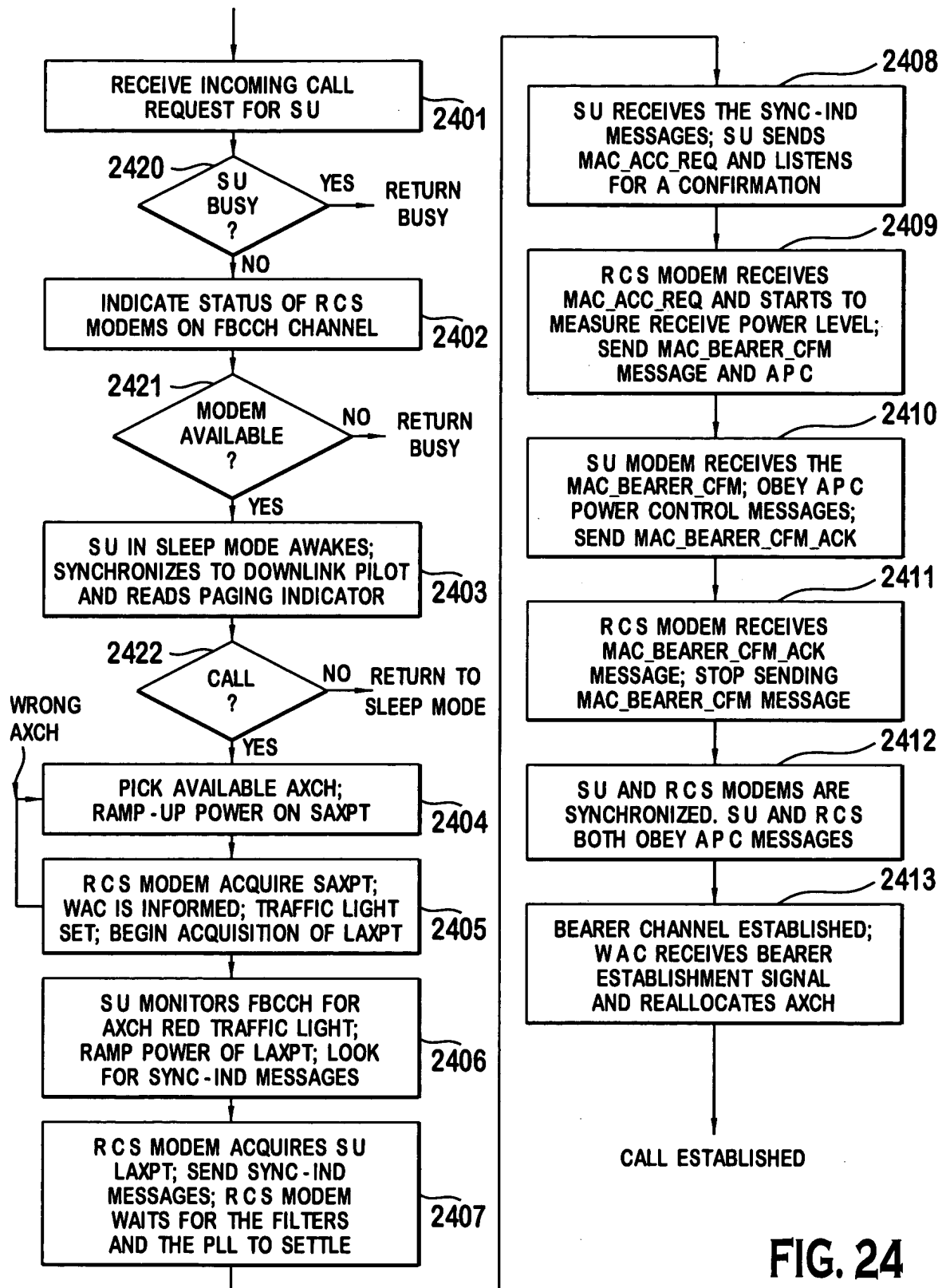


FIG. 24

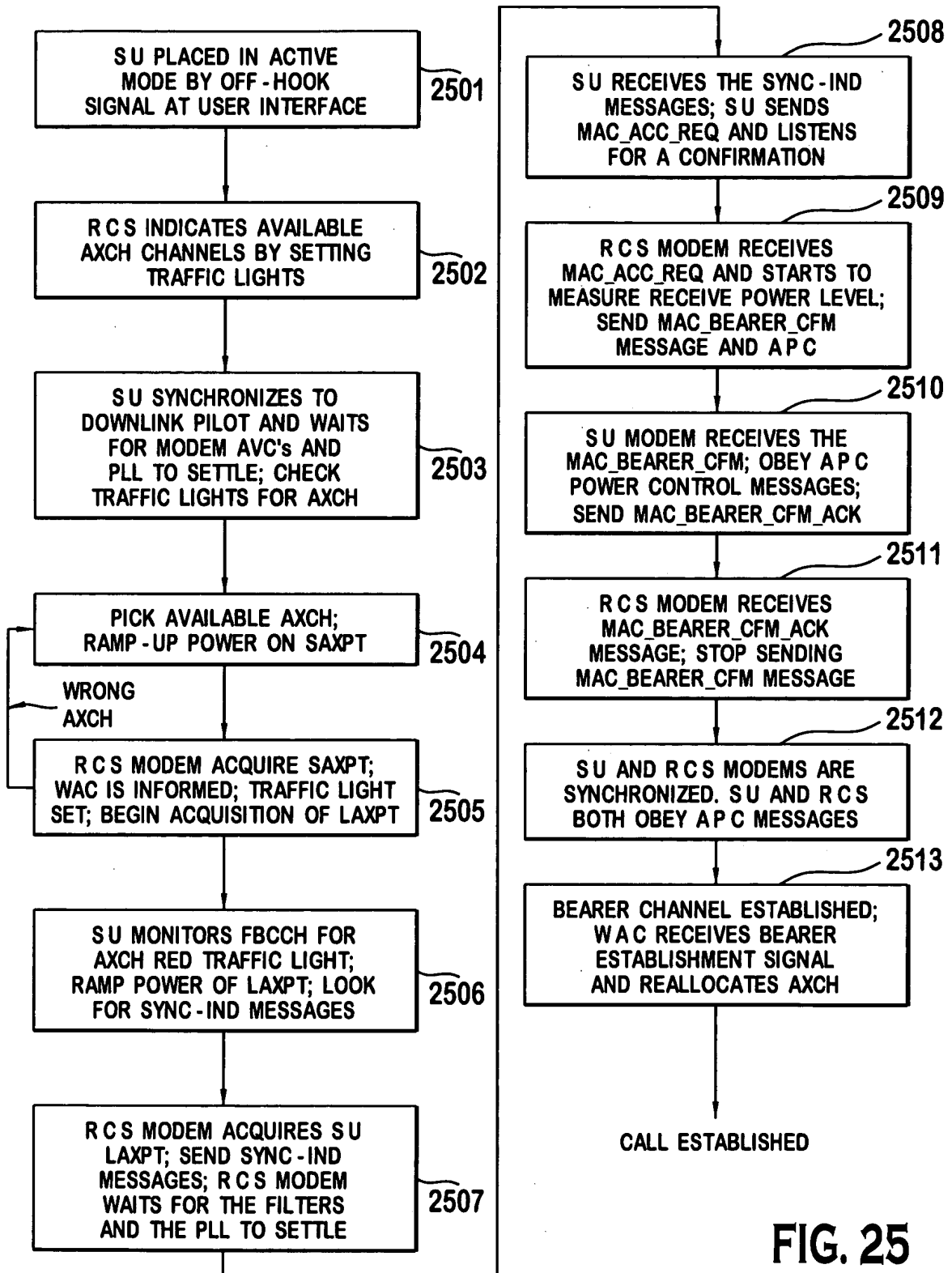


FIG. 25

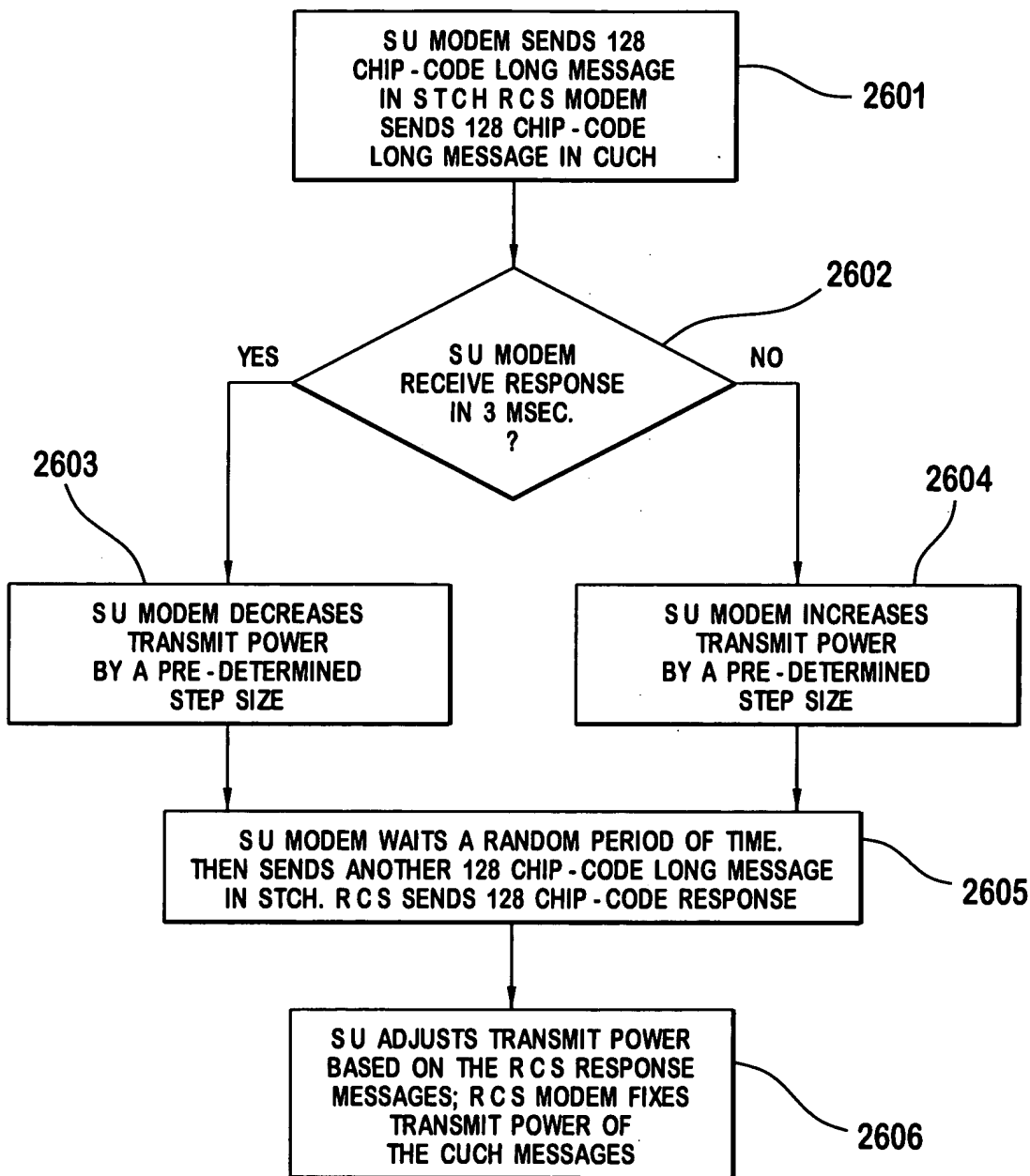


FIG. 26

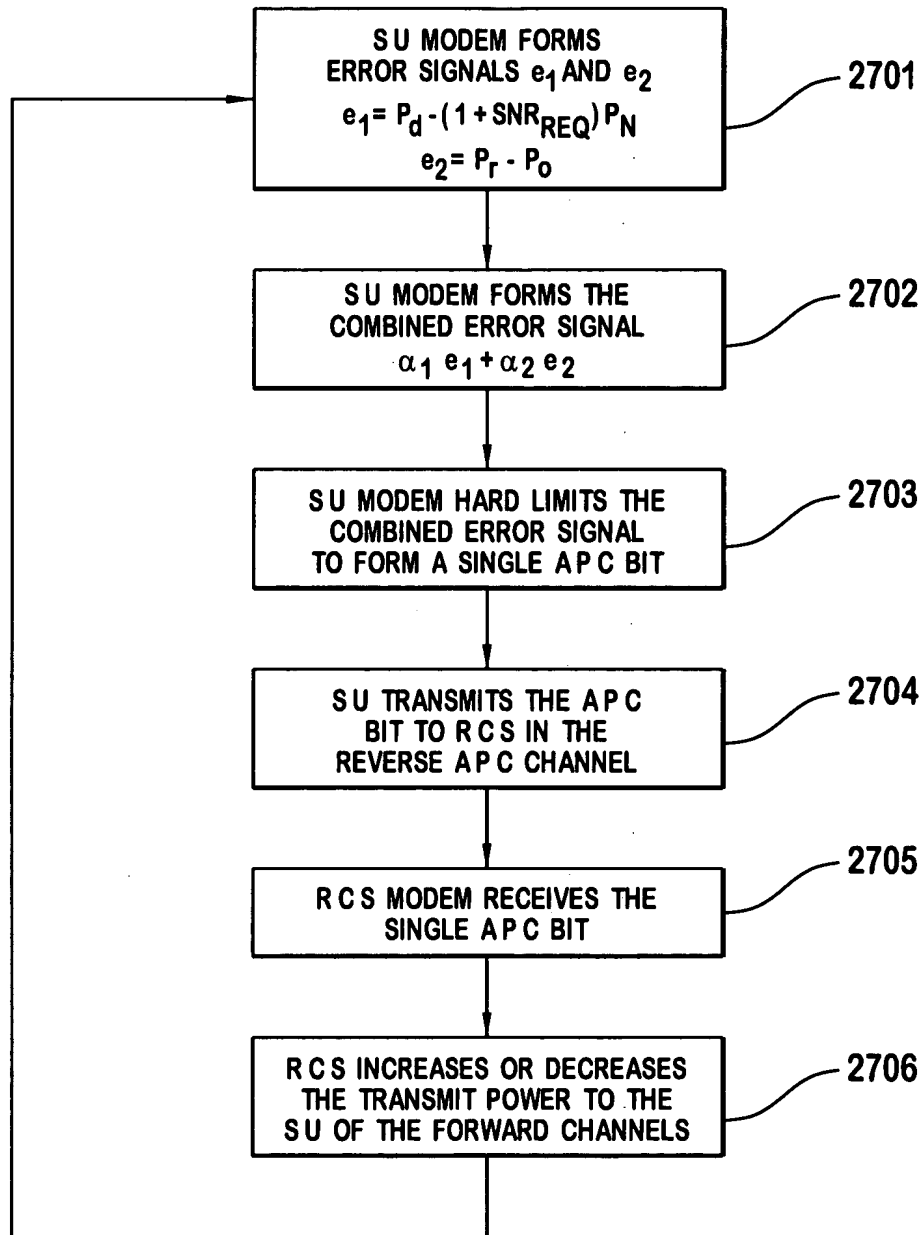


FIG. 27

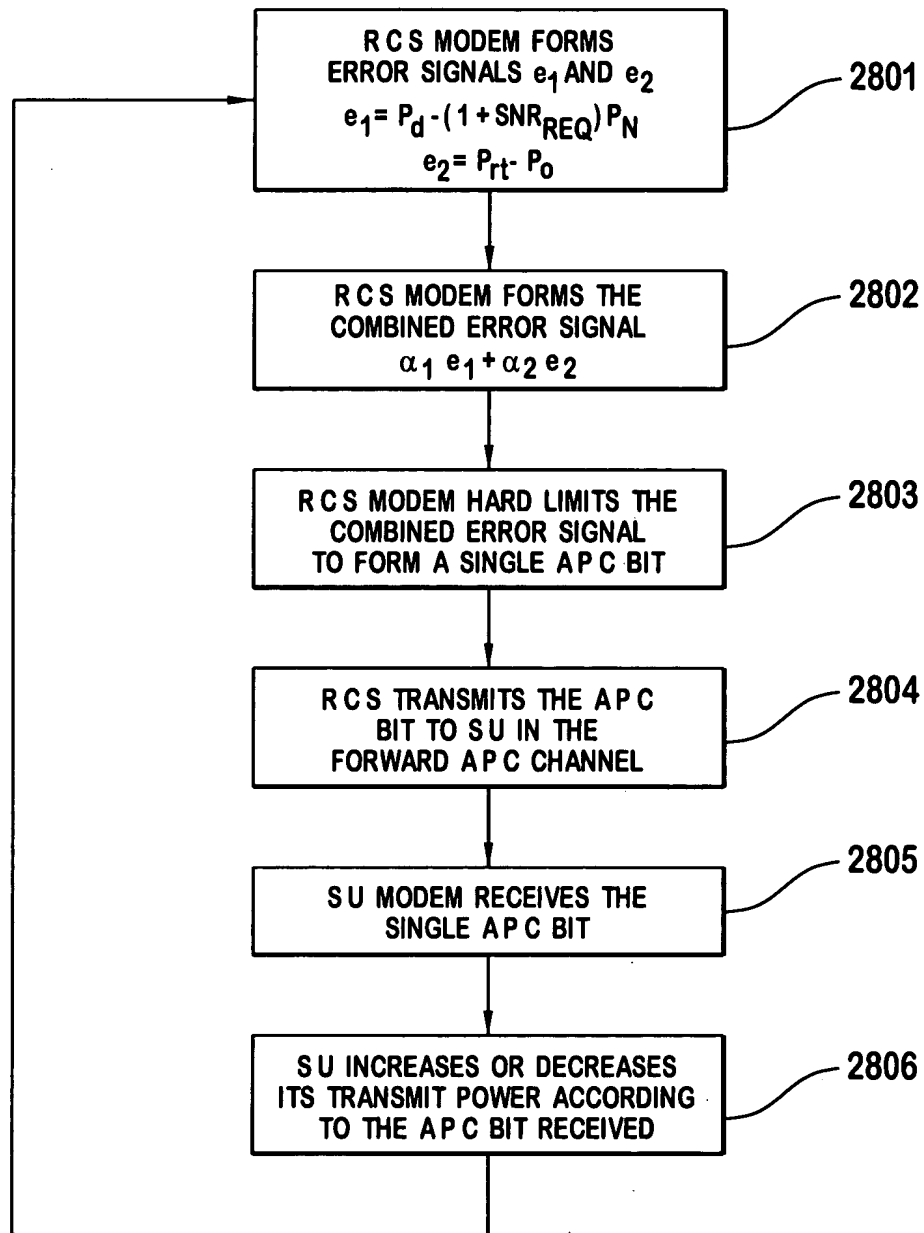
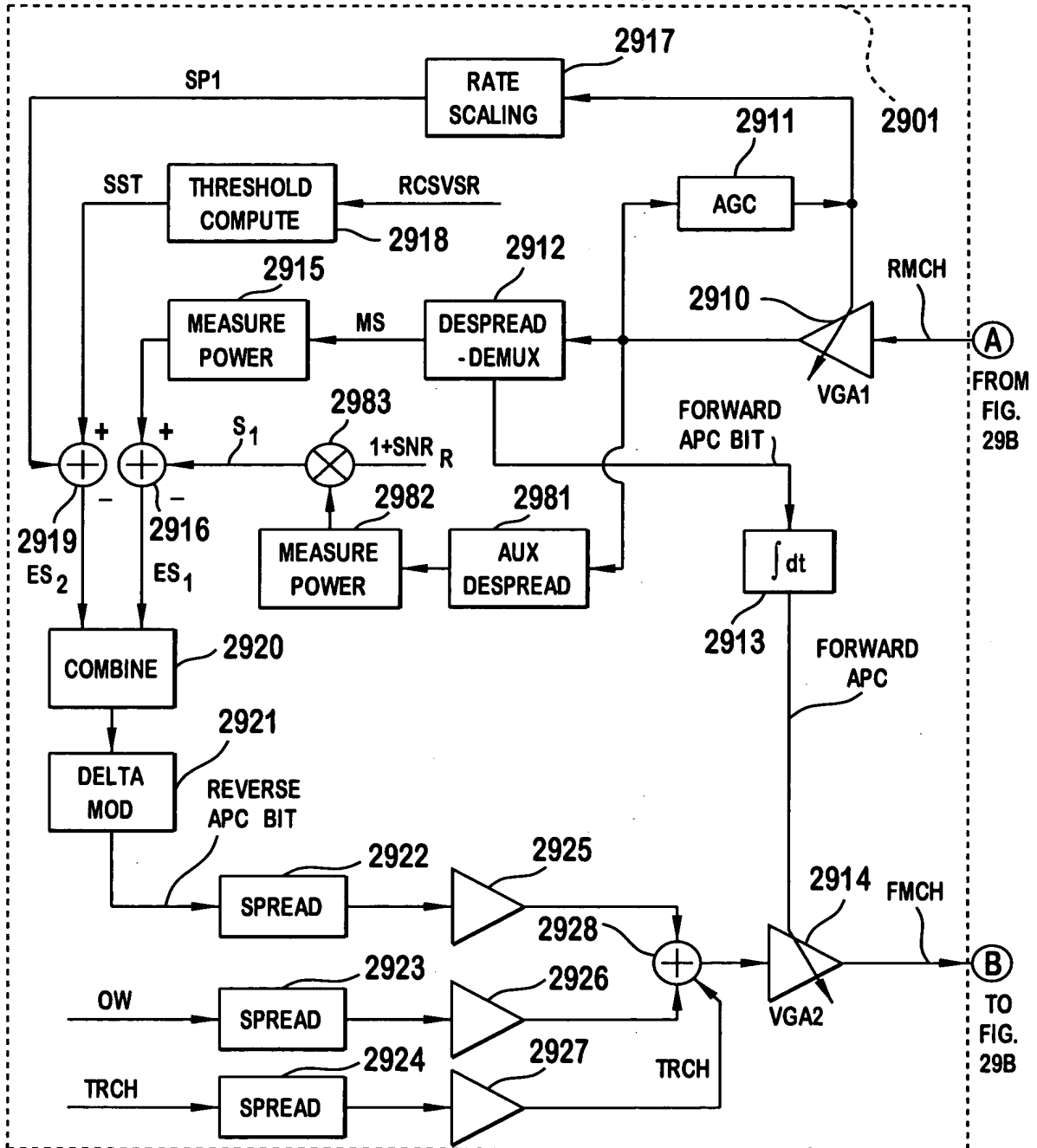


FIG. 28

FIG. 29A



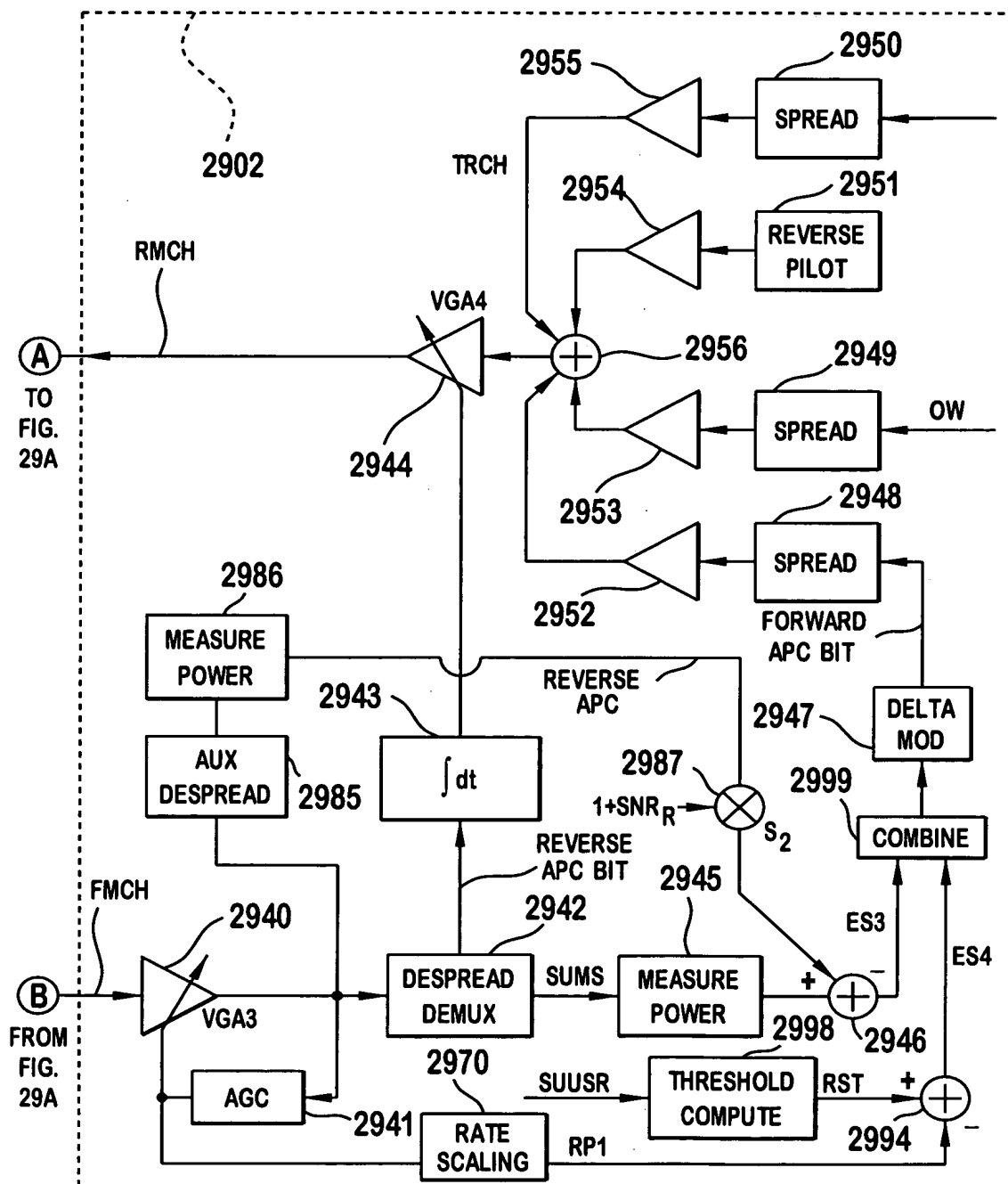


FIG. 30A

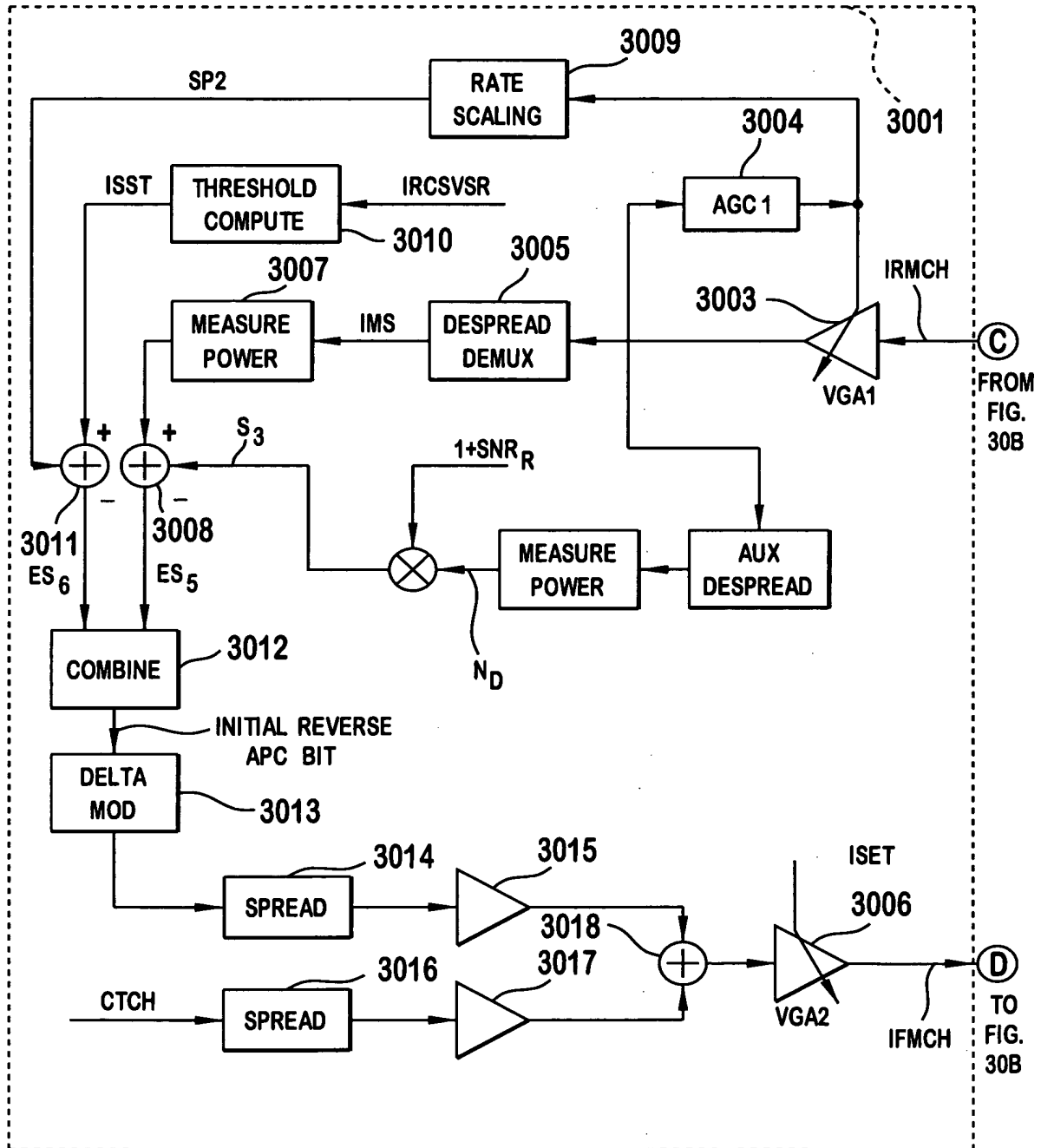


FIG. 30B

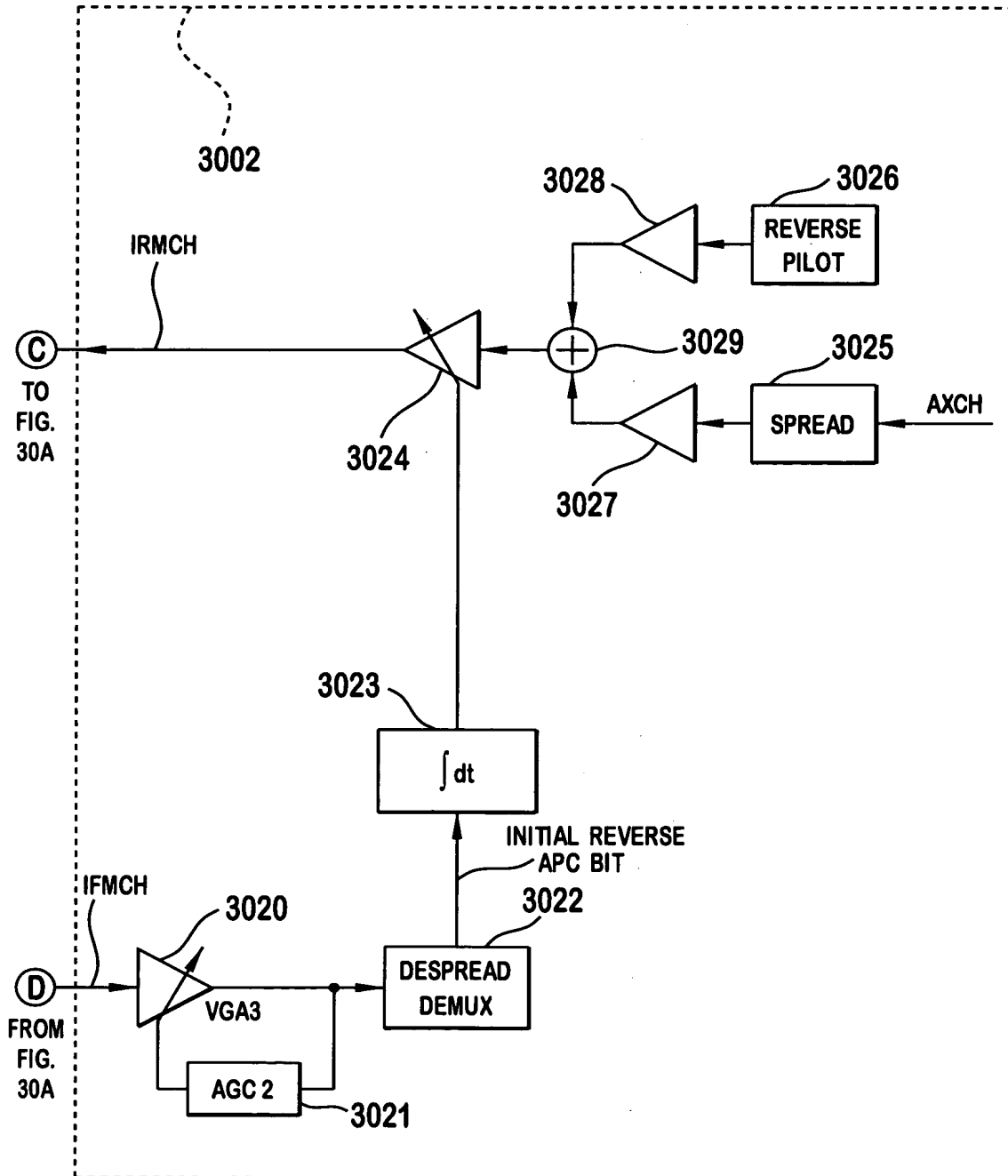


FIG. 31

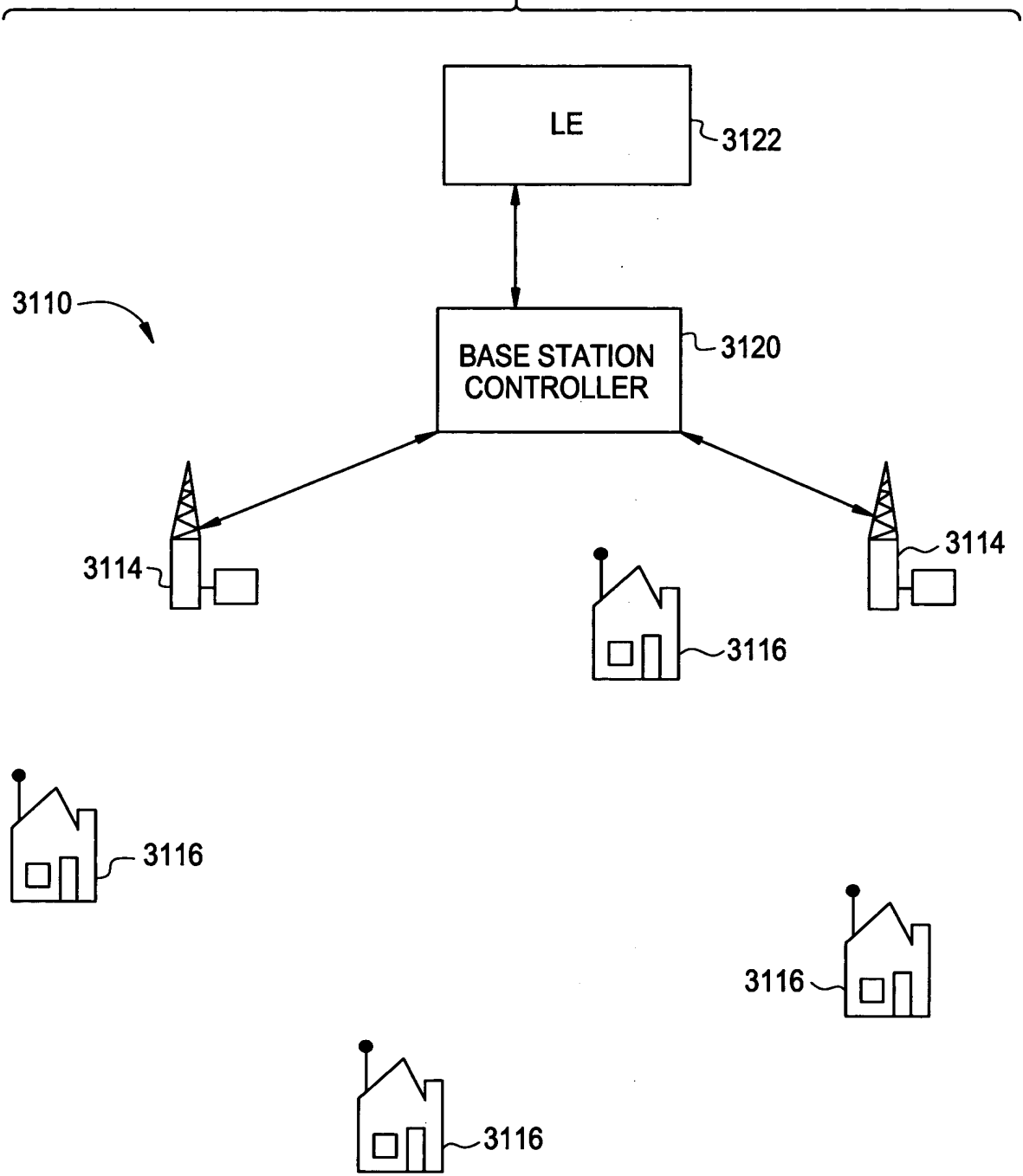


FIG. 32

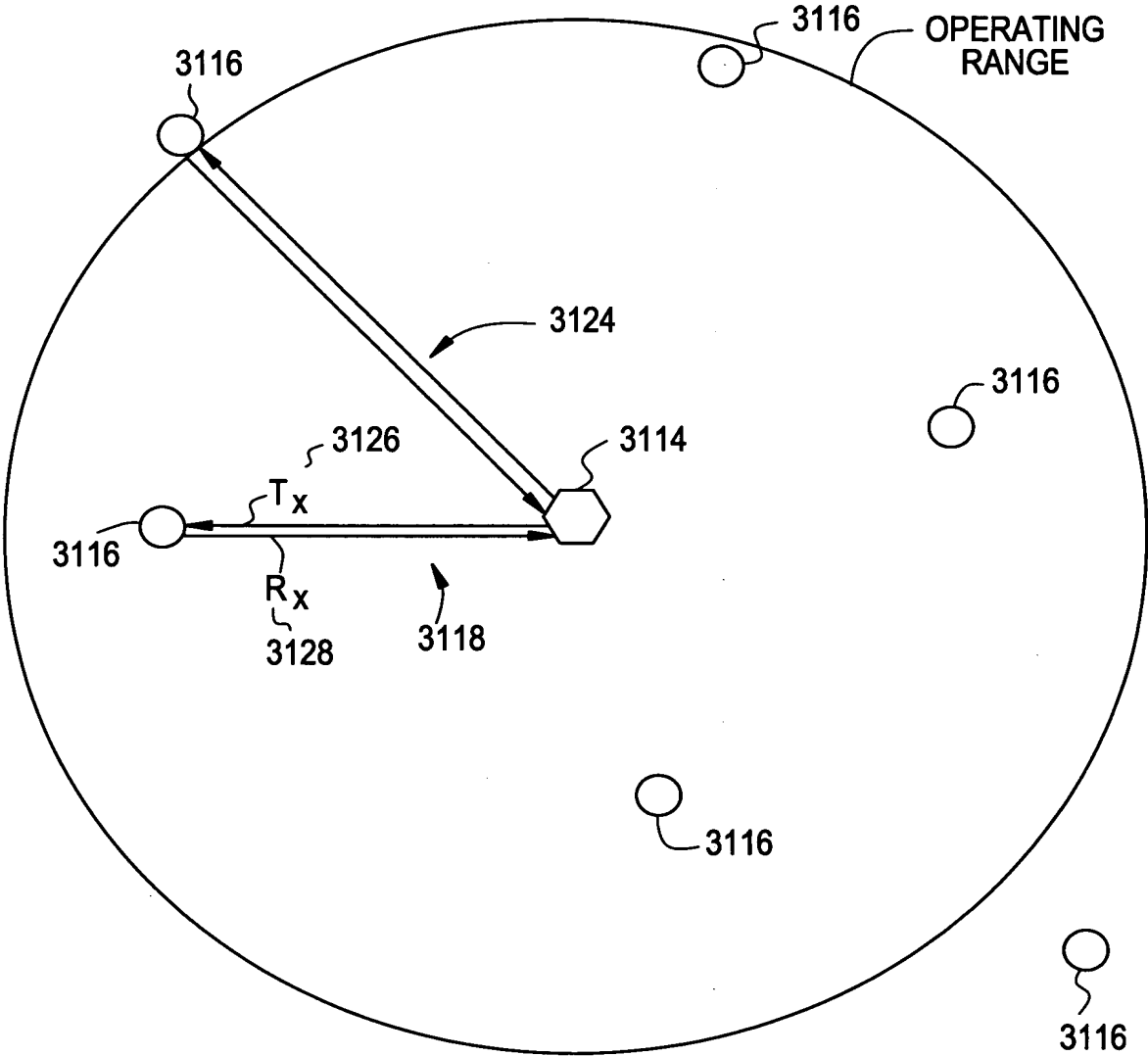


FIG. 33

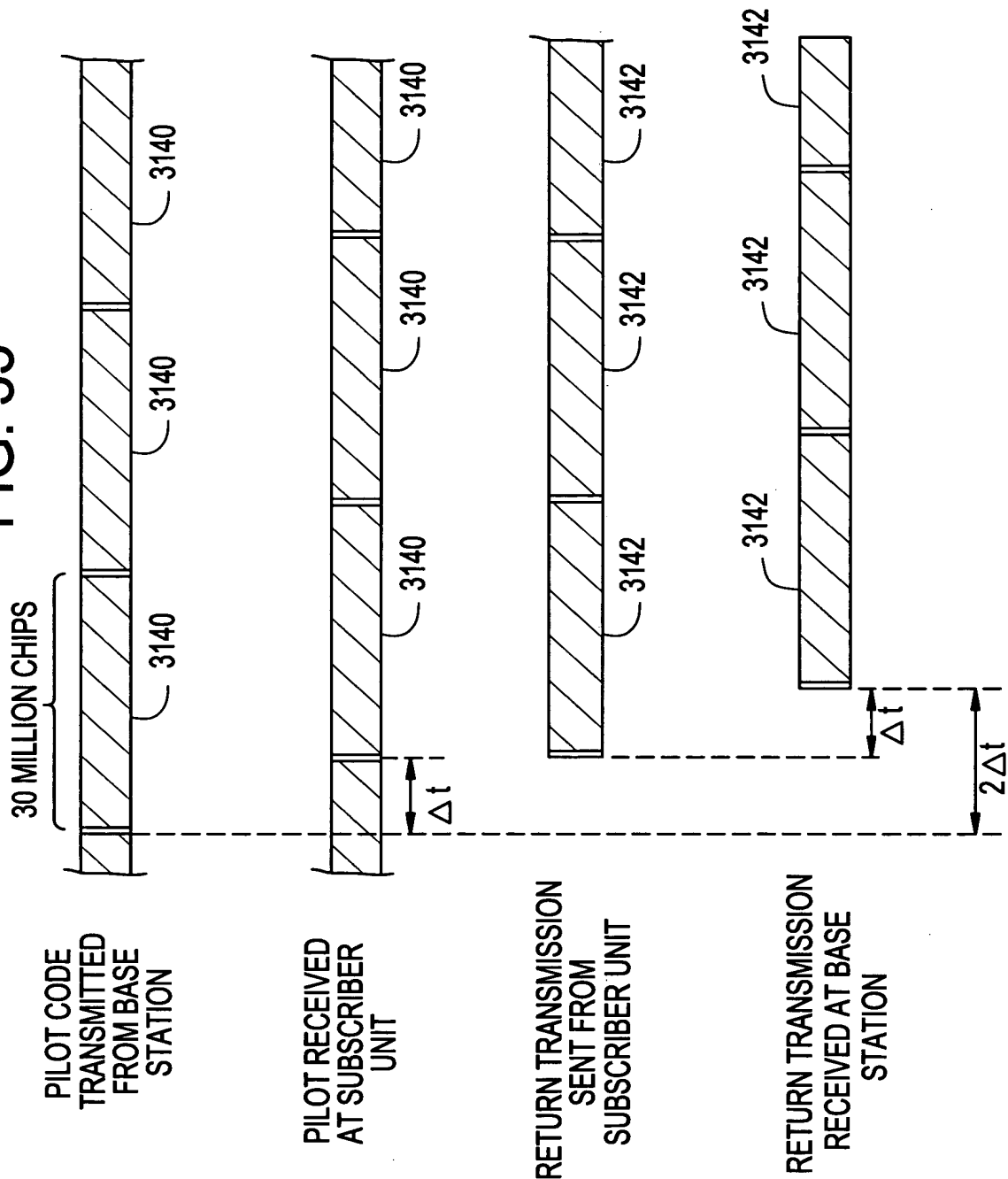


FIG. 34

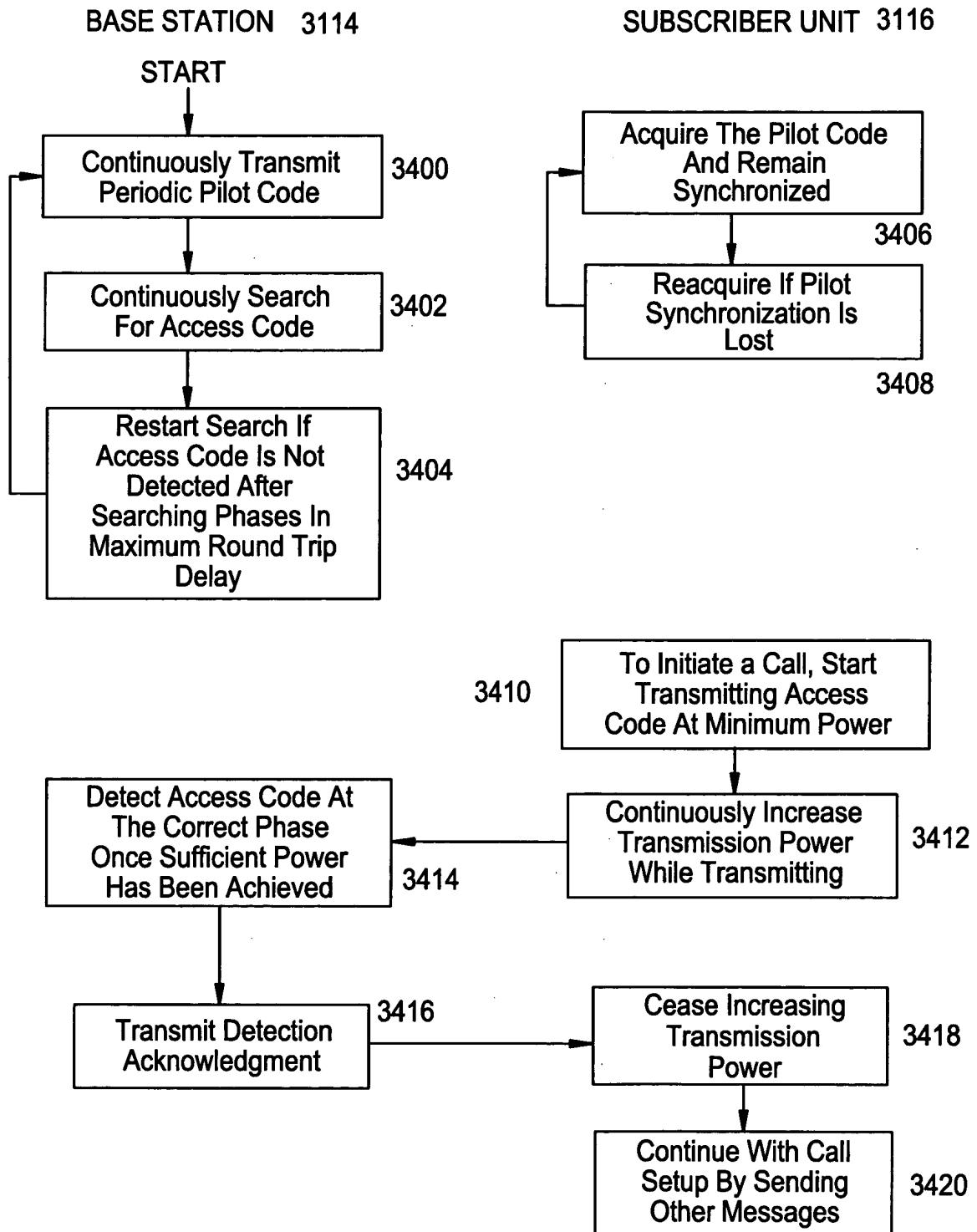


FIG. 35

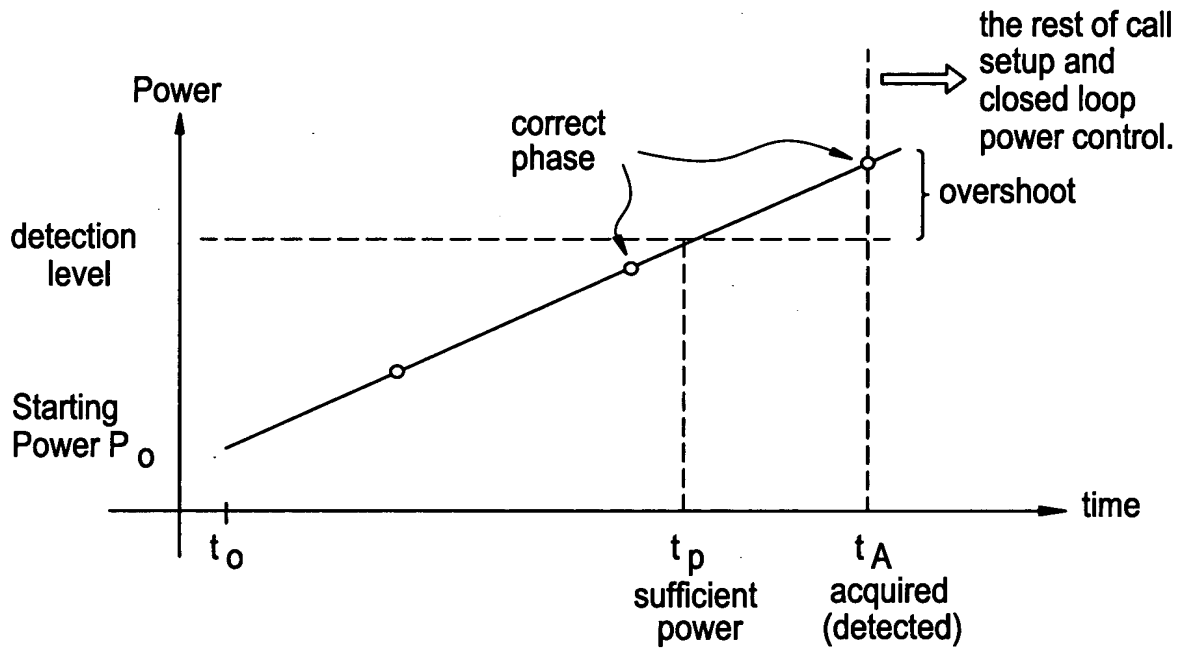


FIG. 37

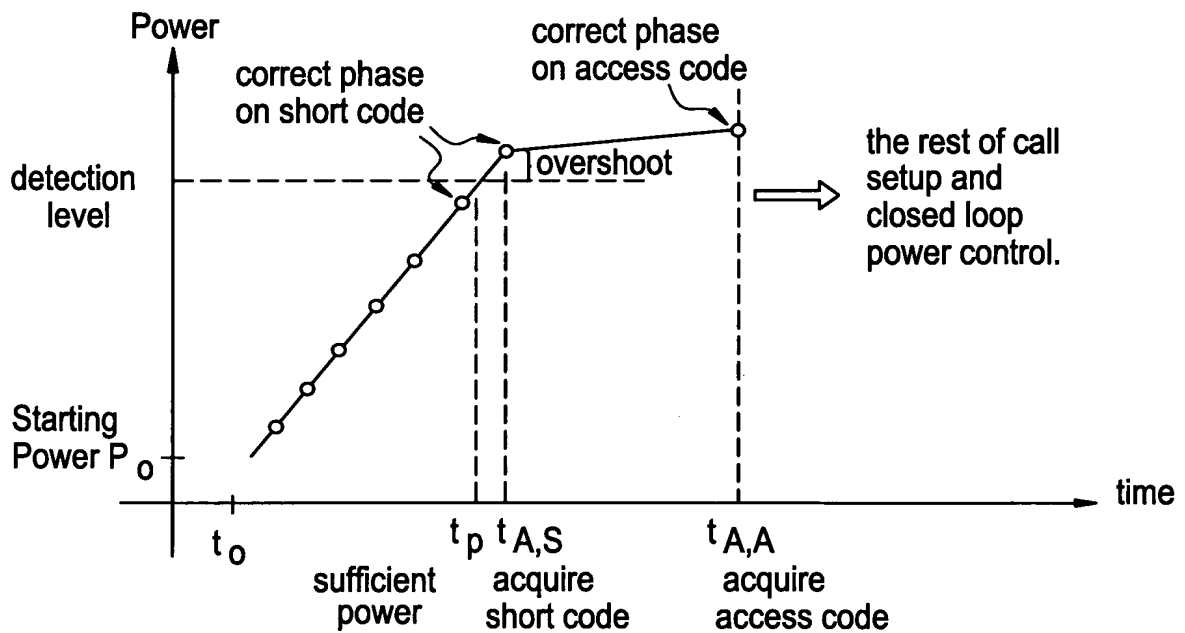


FIG. 36A

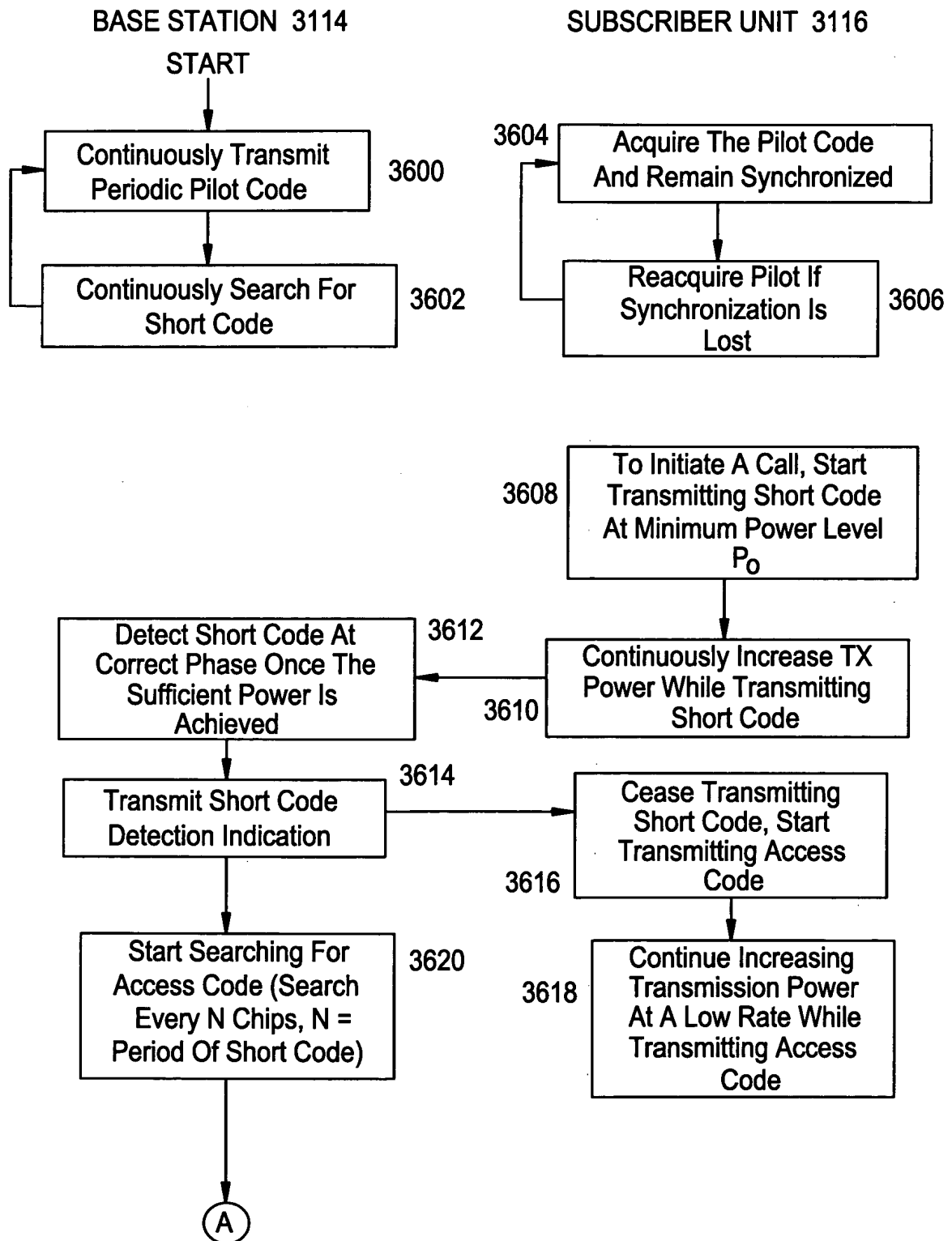


FIG. 36B

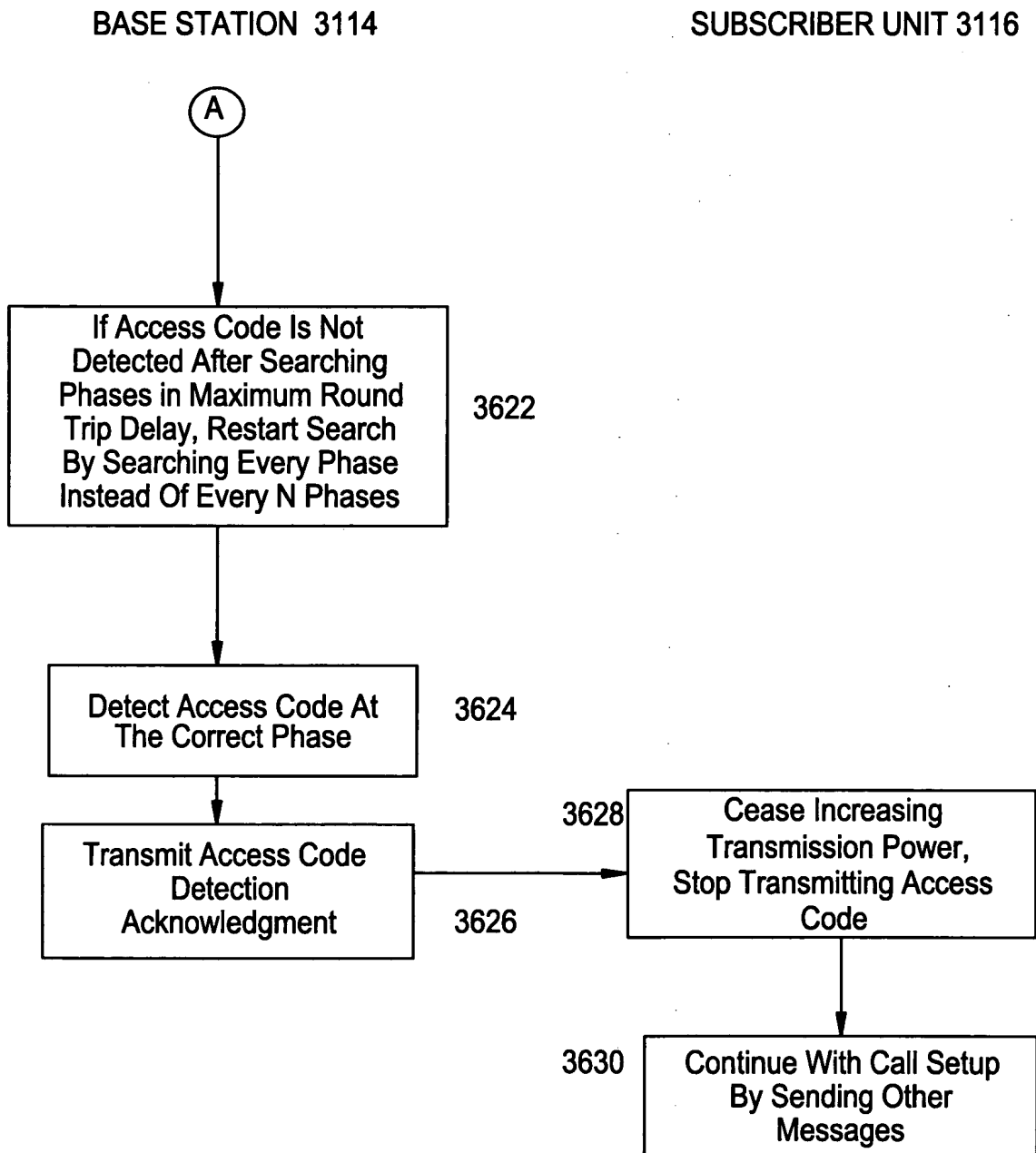


FIG. 38

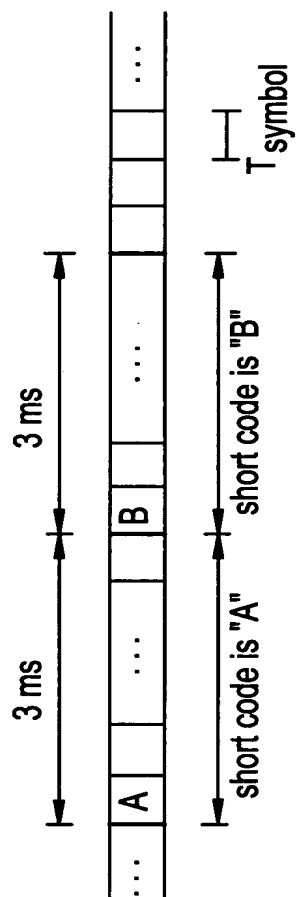


FIG. 39

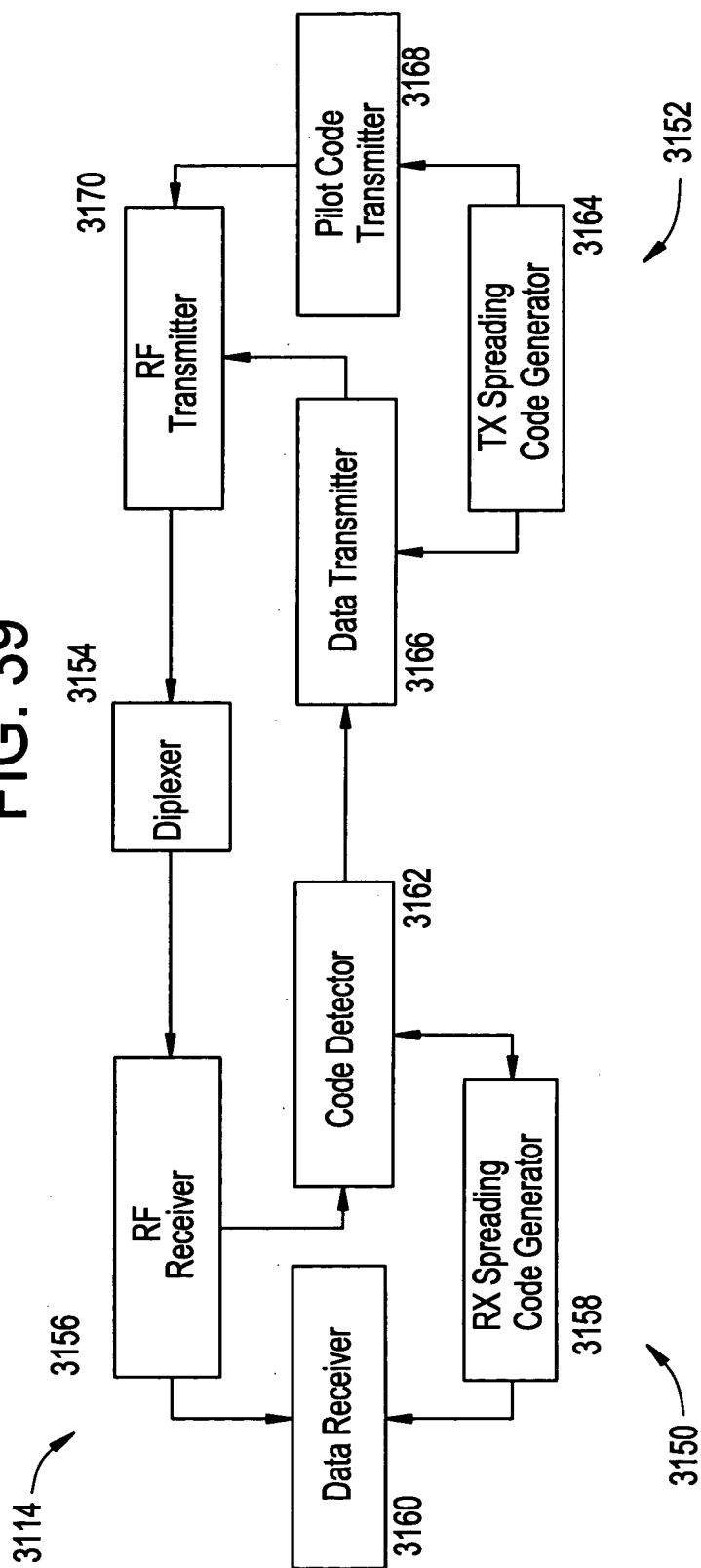


FIG. 40

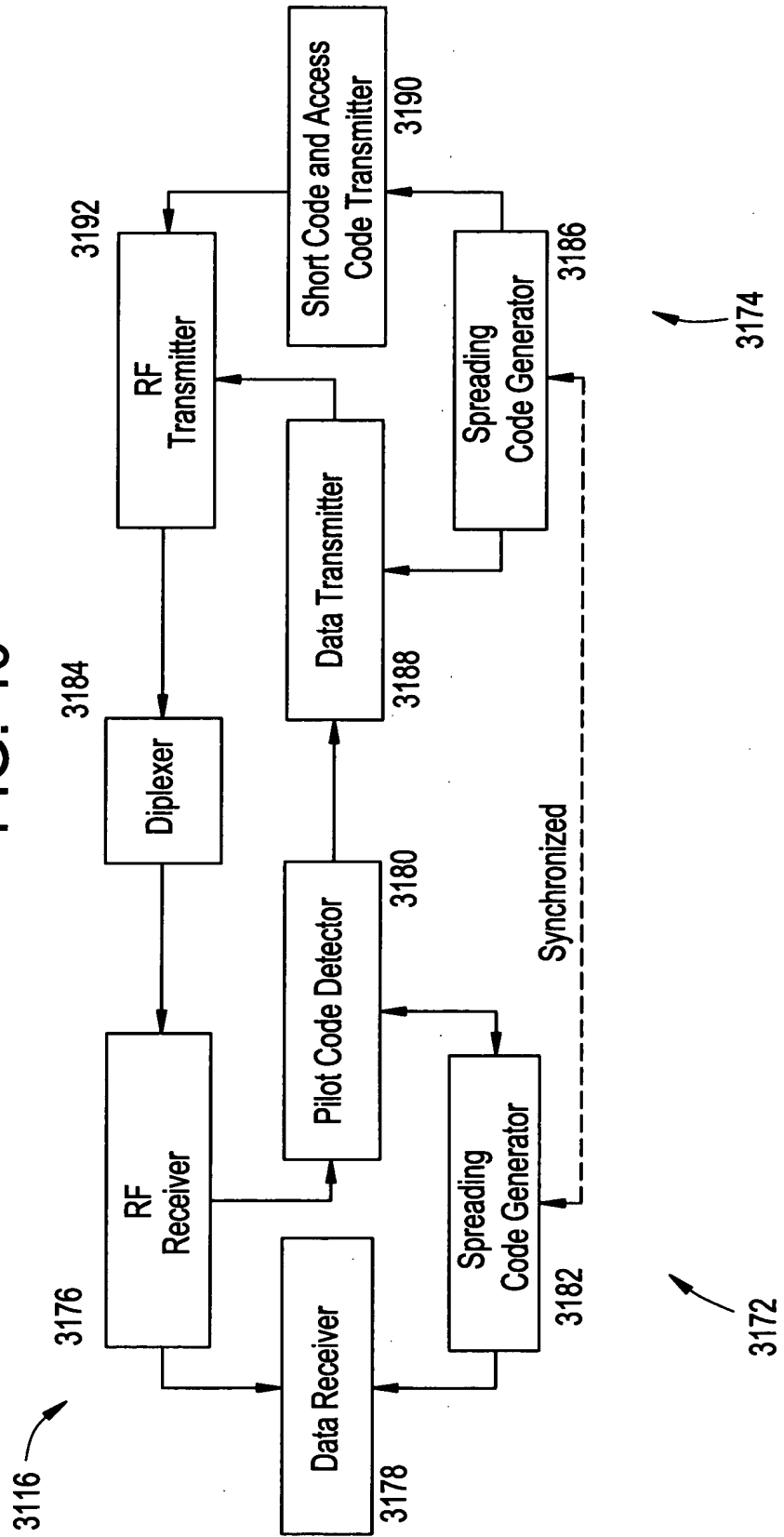


FIG. 41A

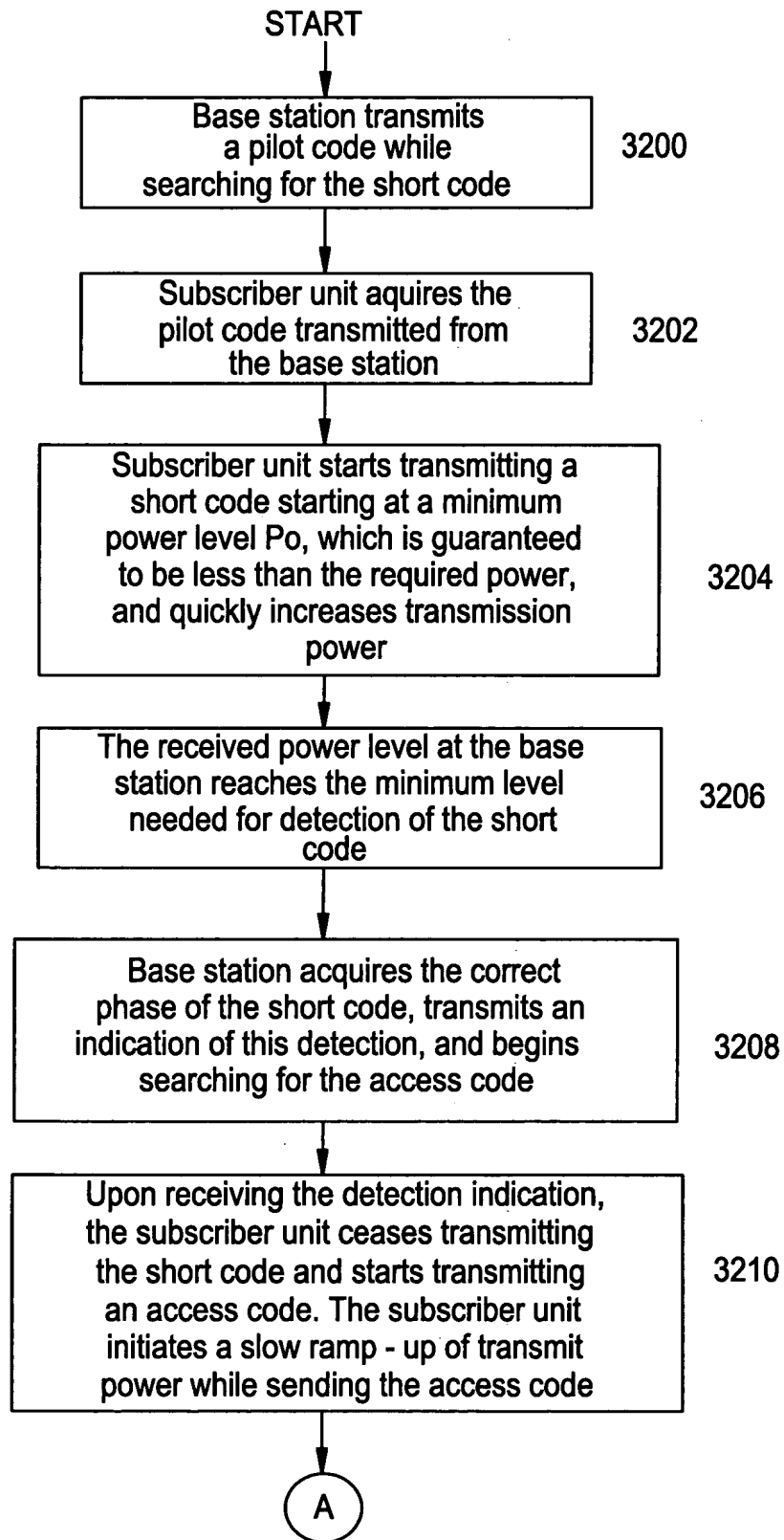


FIG. 41B

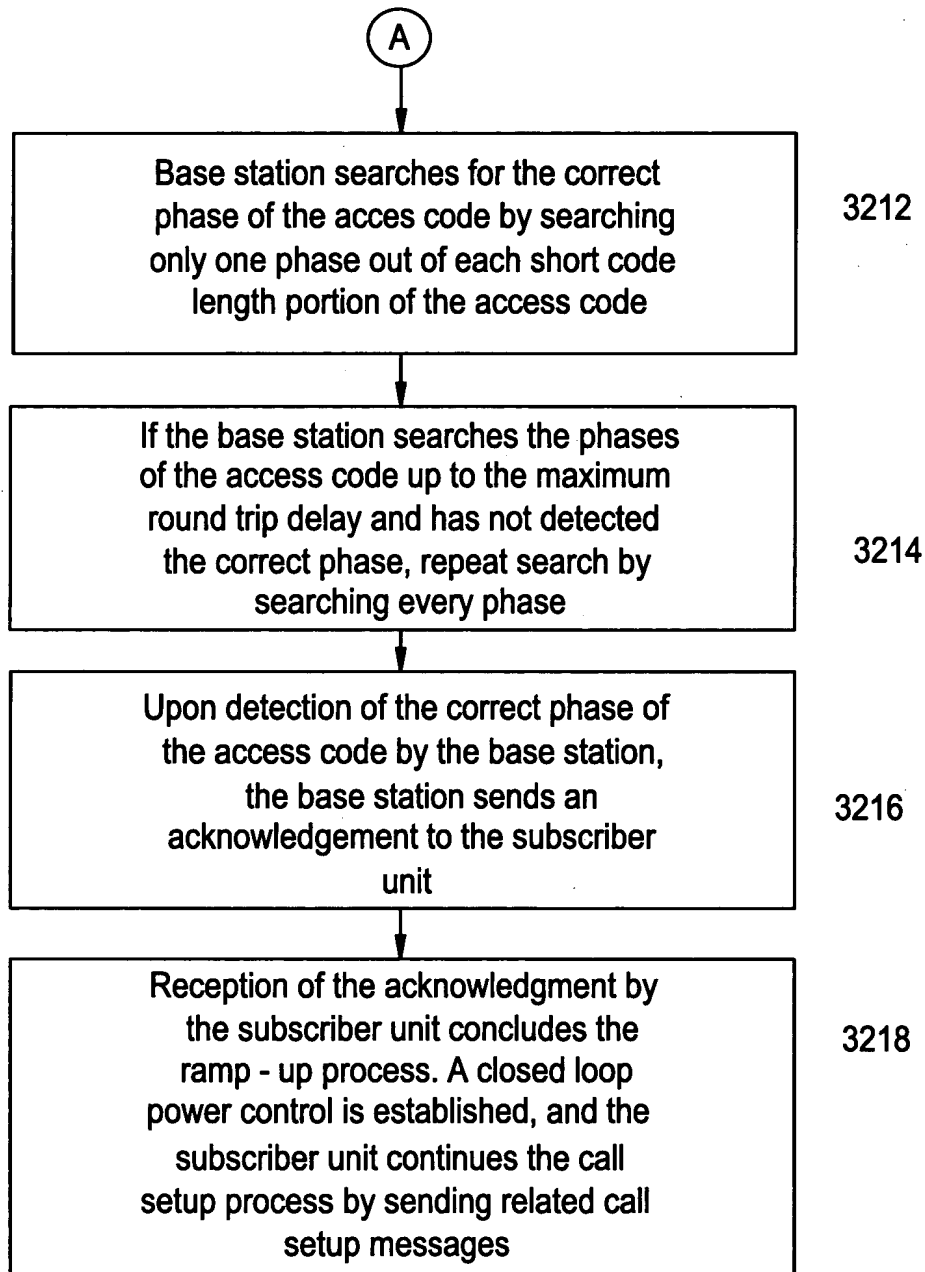


FIG. 42
PRIOR ART

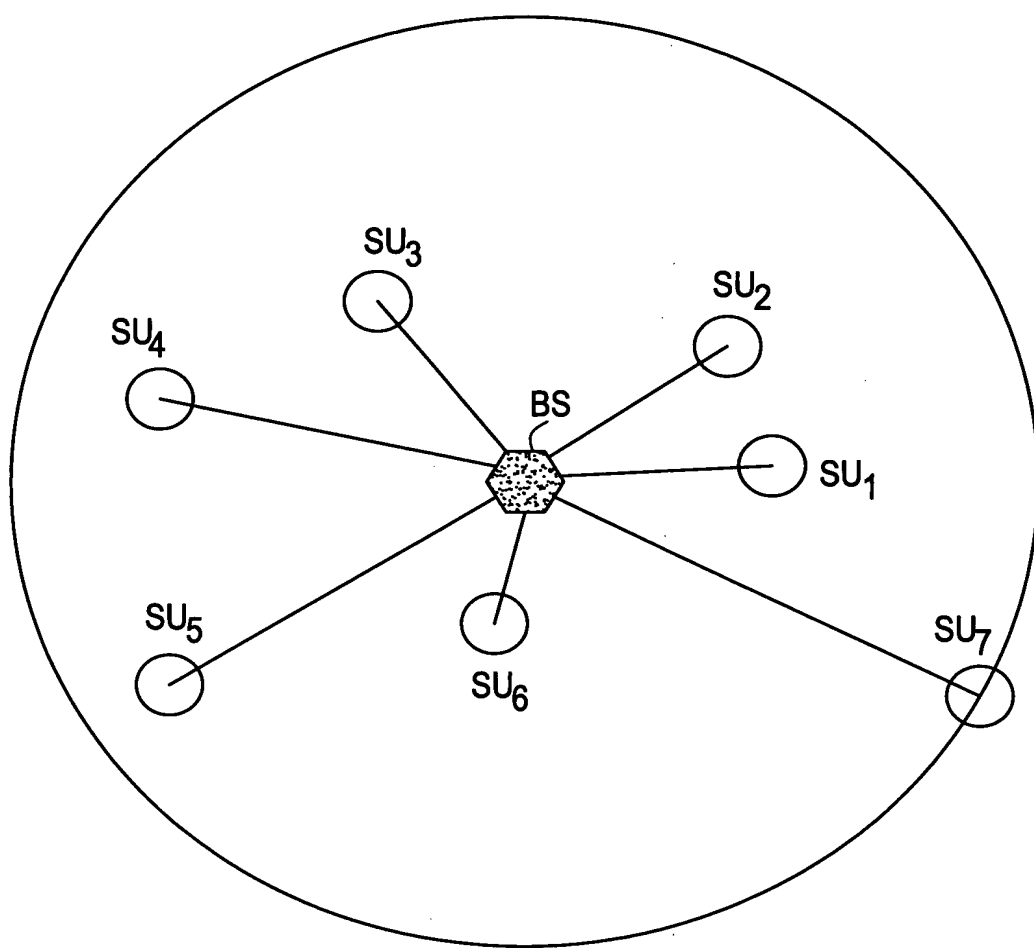


FIG. 43
PRIOR ART

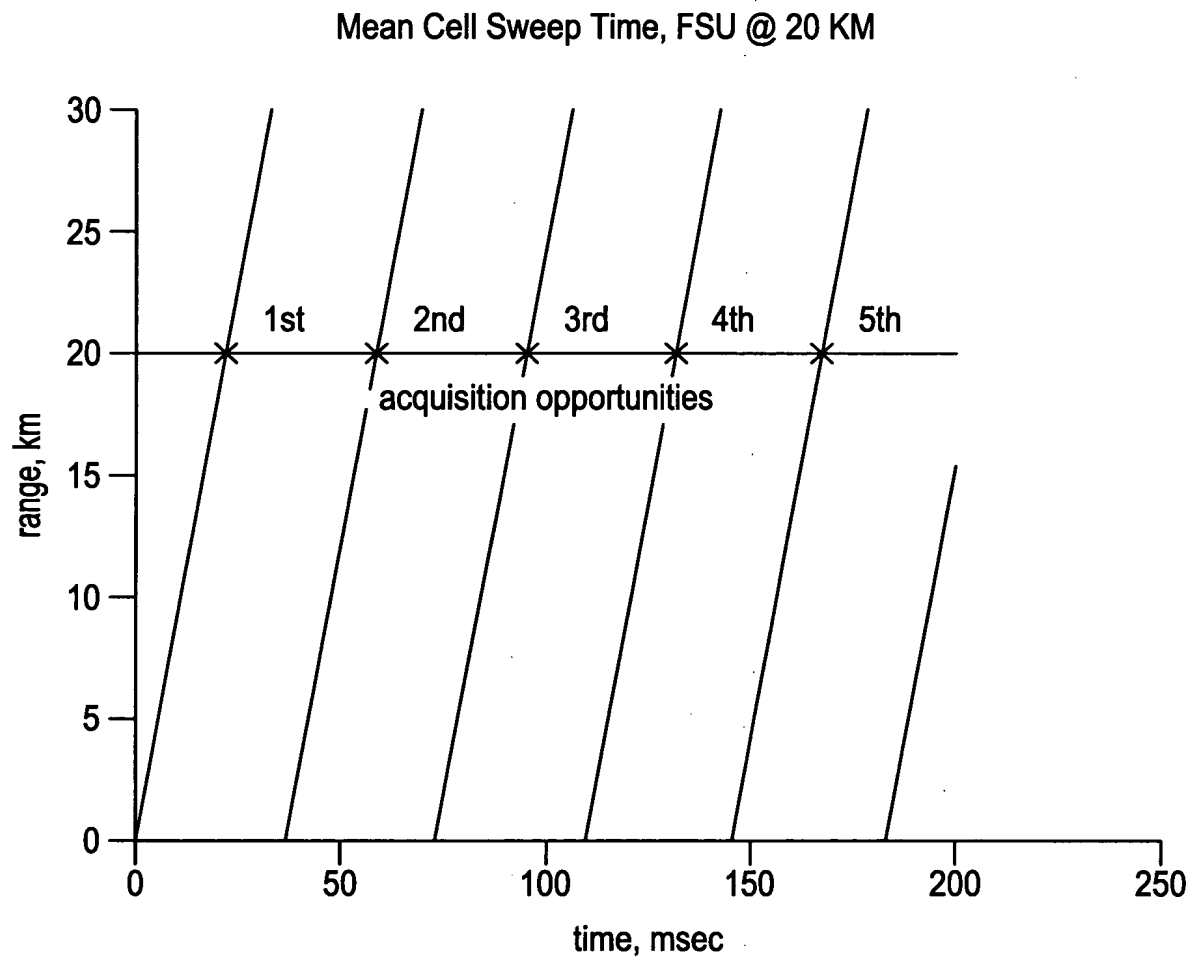


FIG. 44

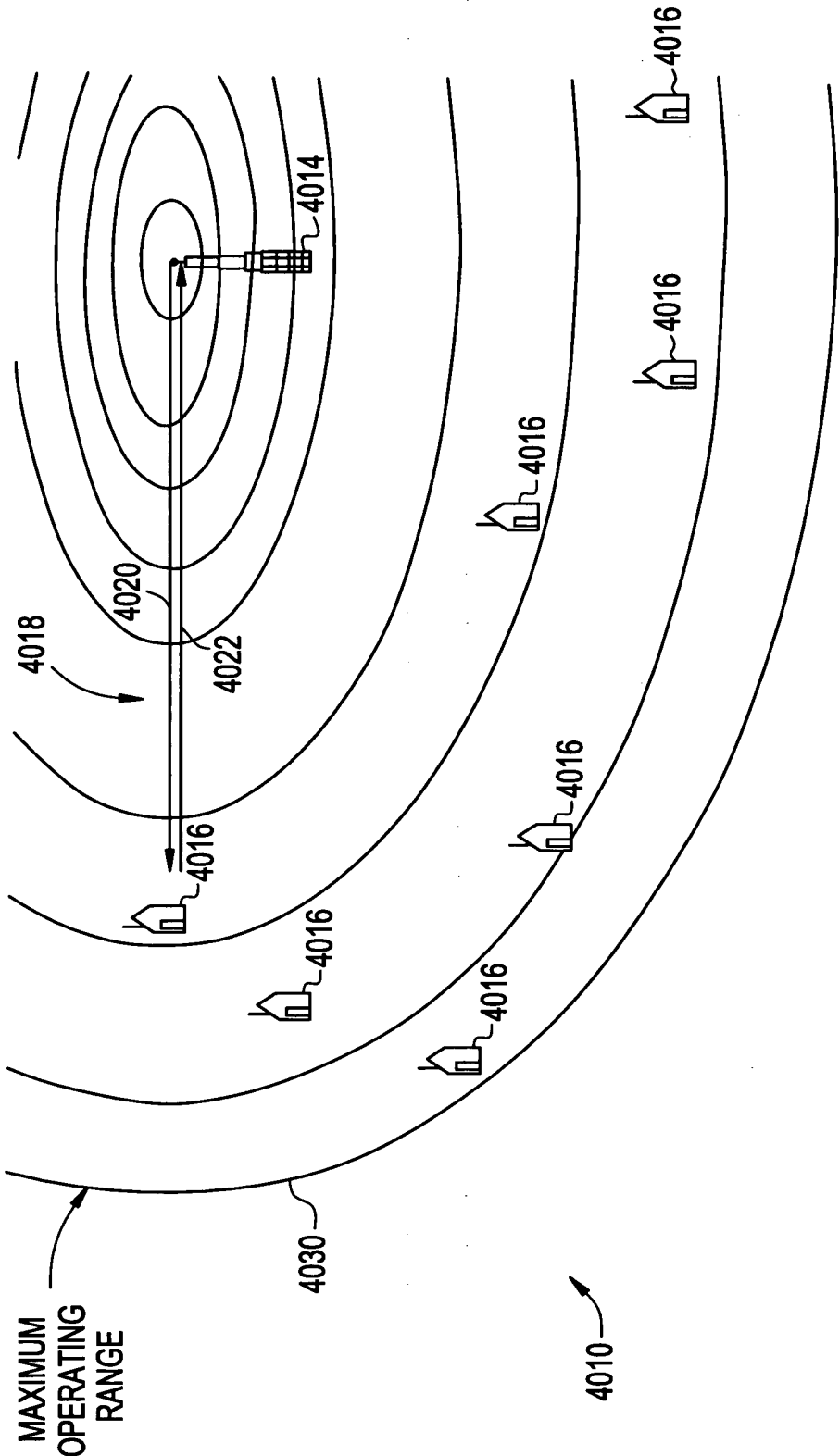


FIG. 45

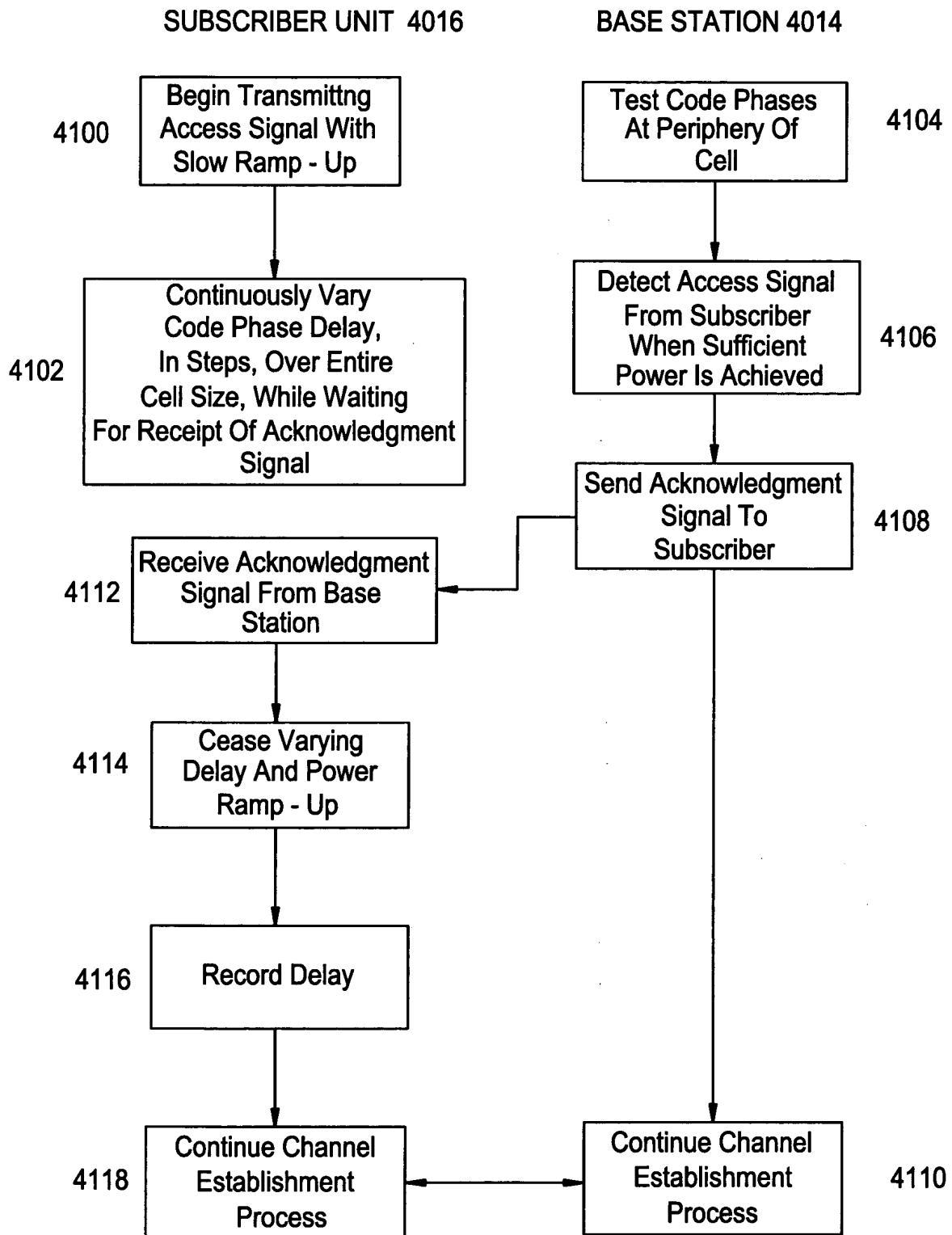


FIG. 46

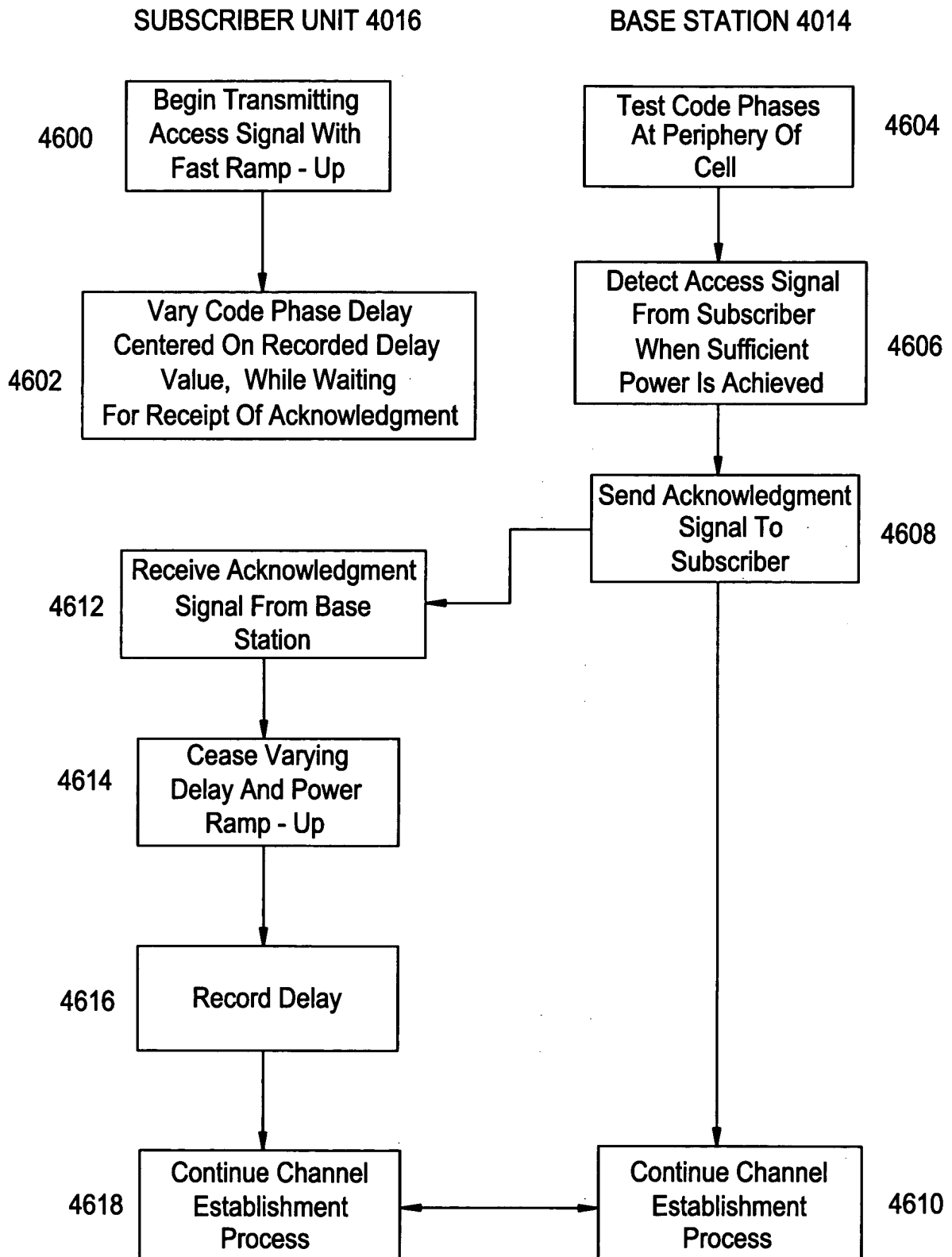


FIG. 47

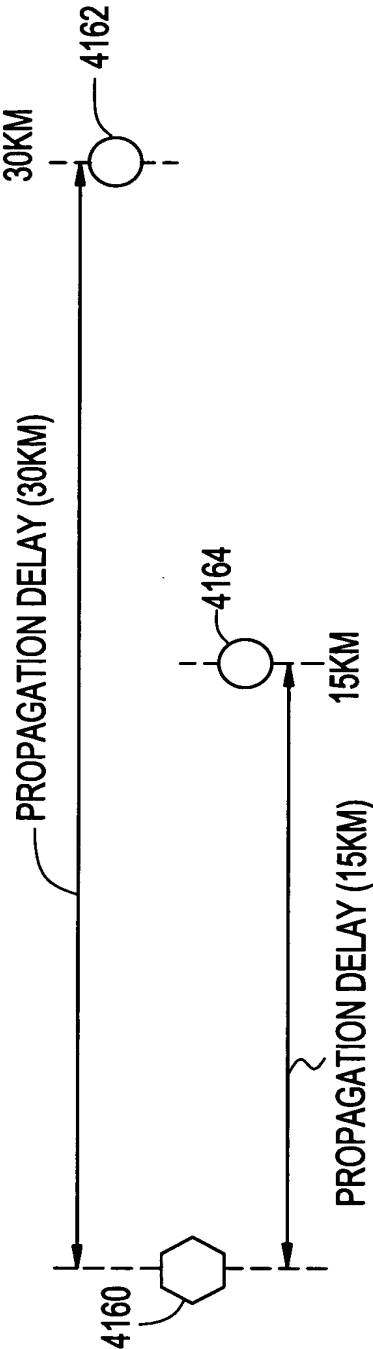


FIG. 48

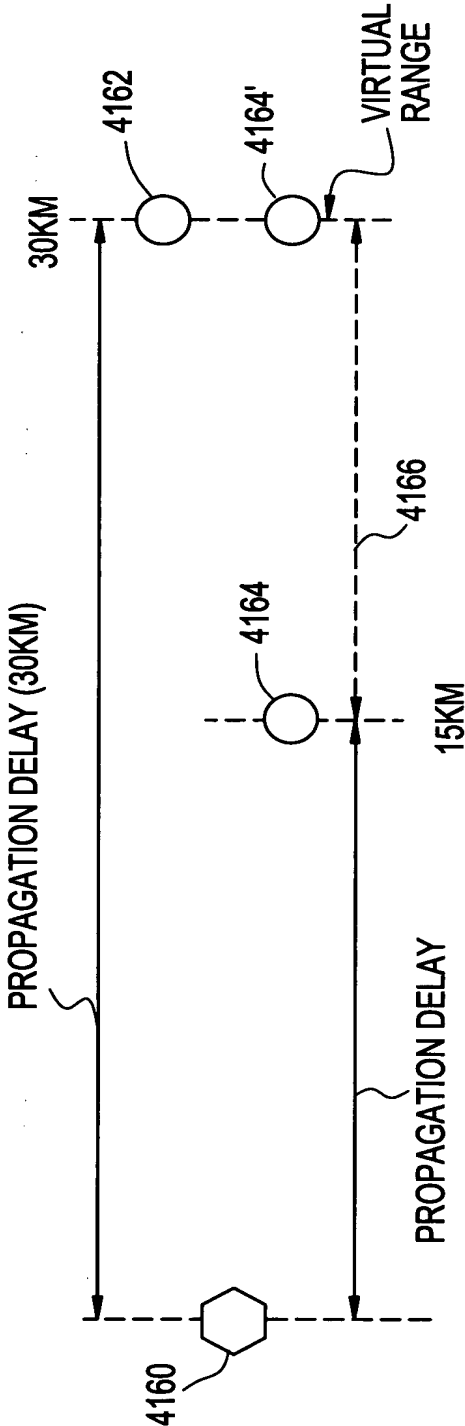


FIG. 49

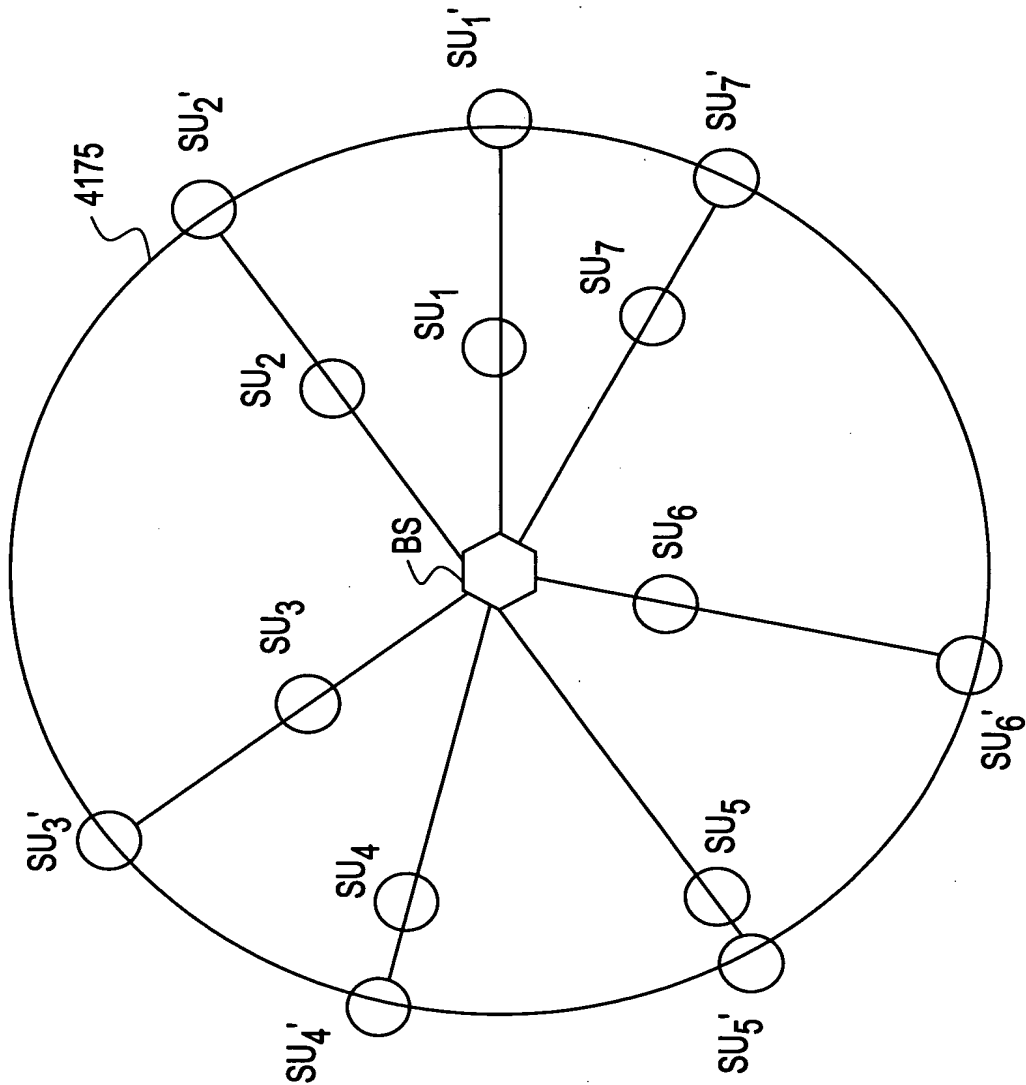


FIG. 50

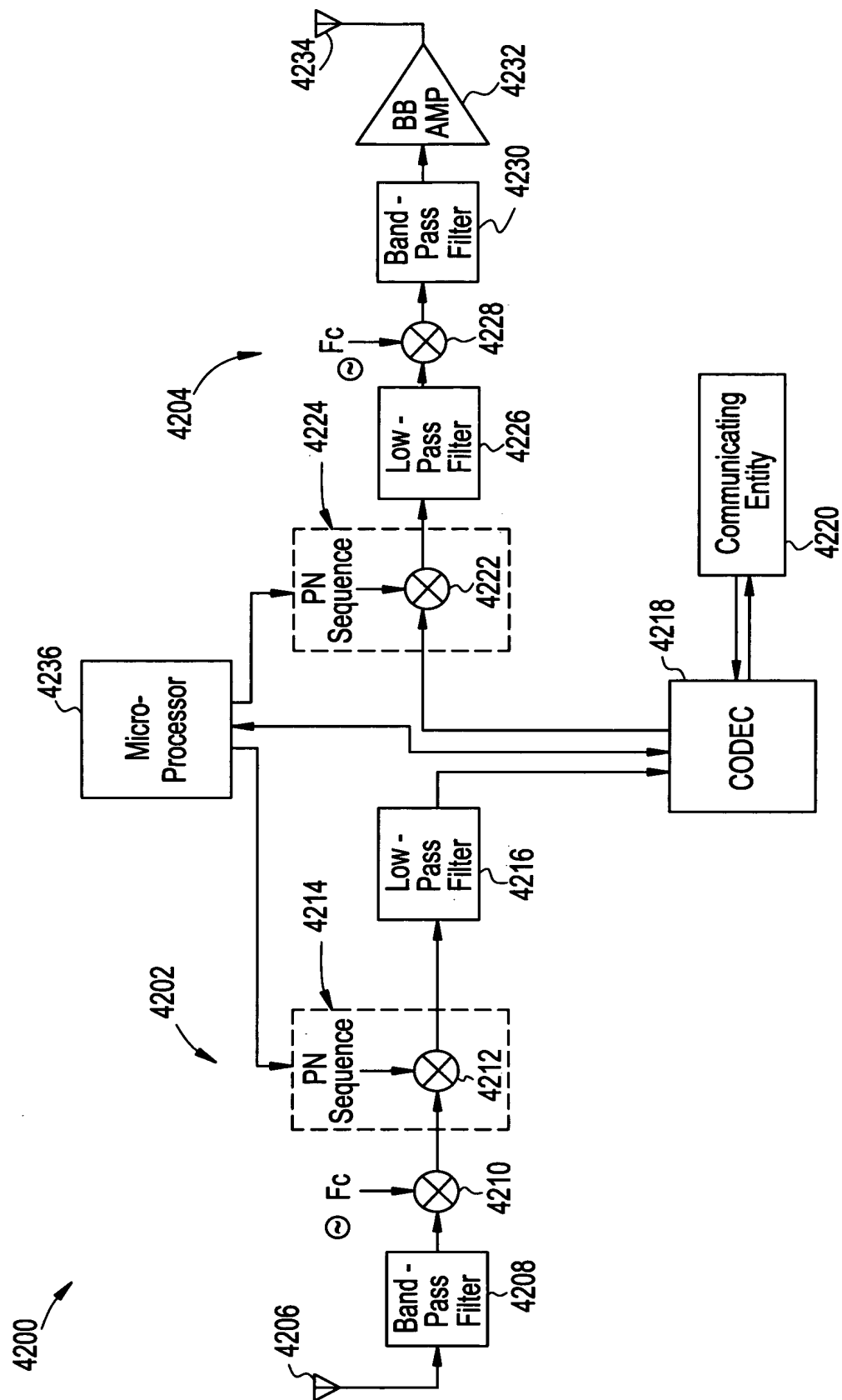


FIG. 51

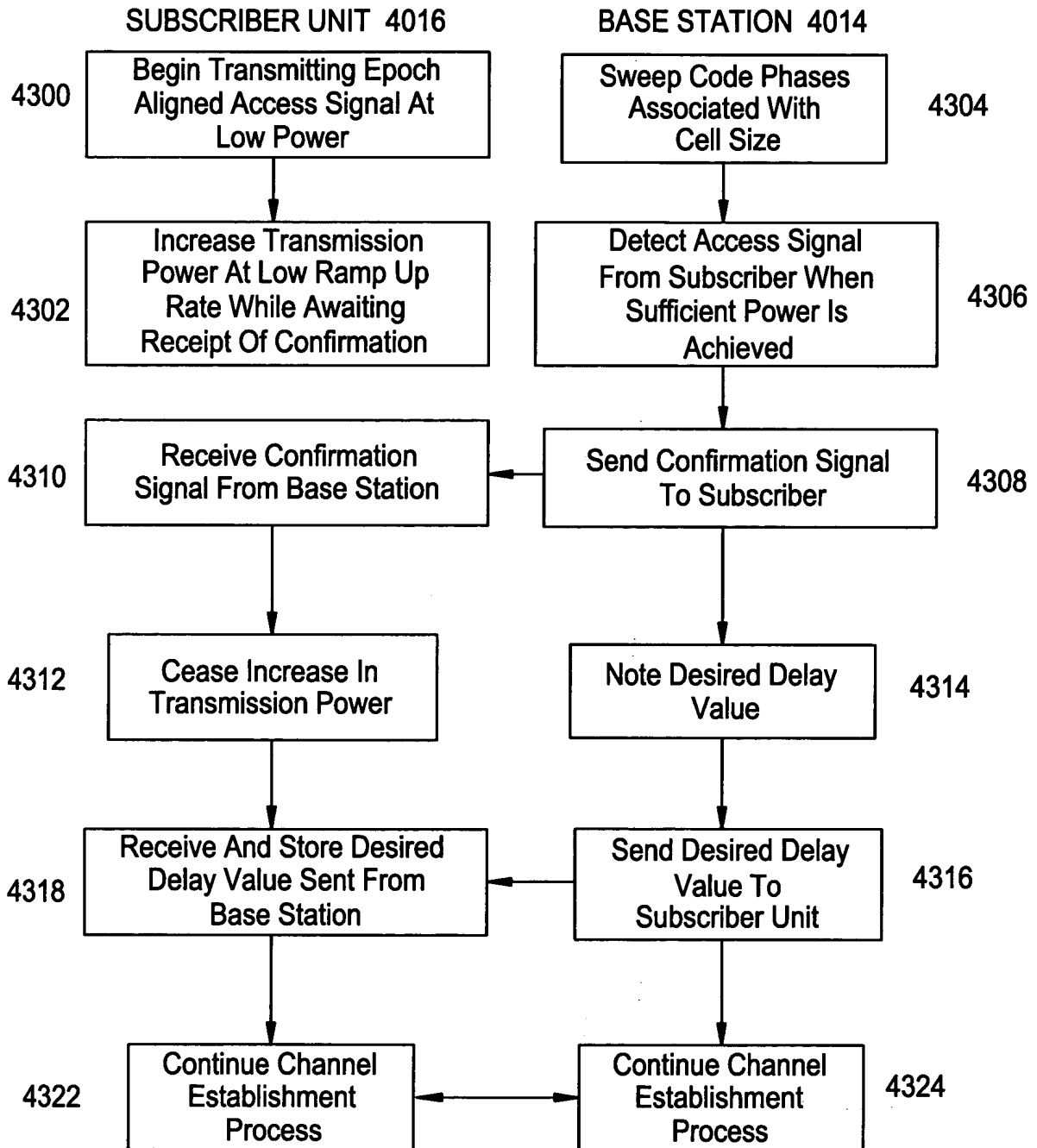


FIG. 52

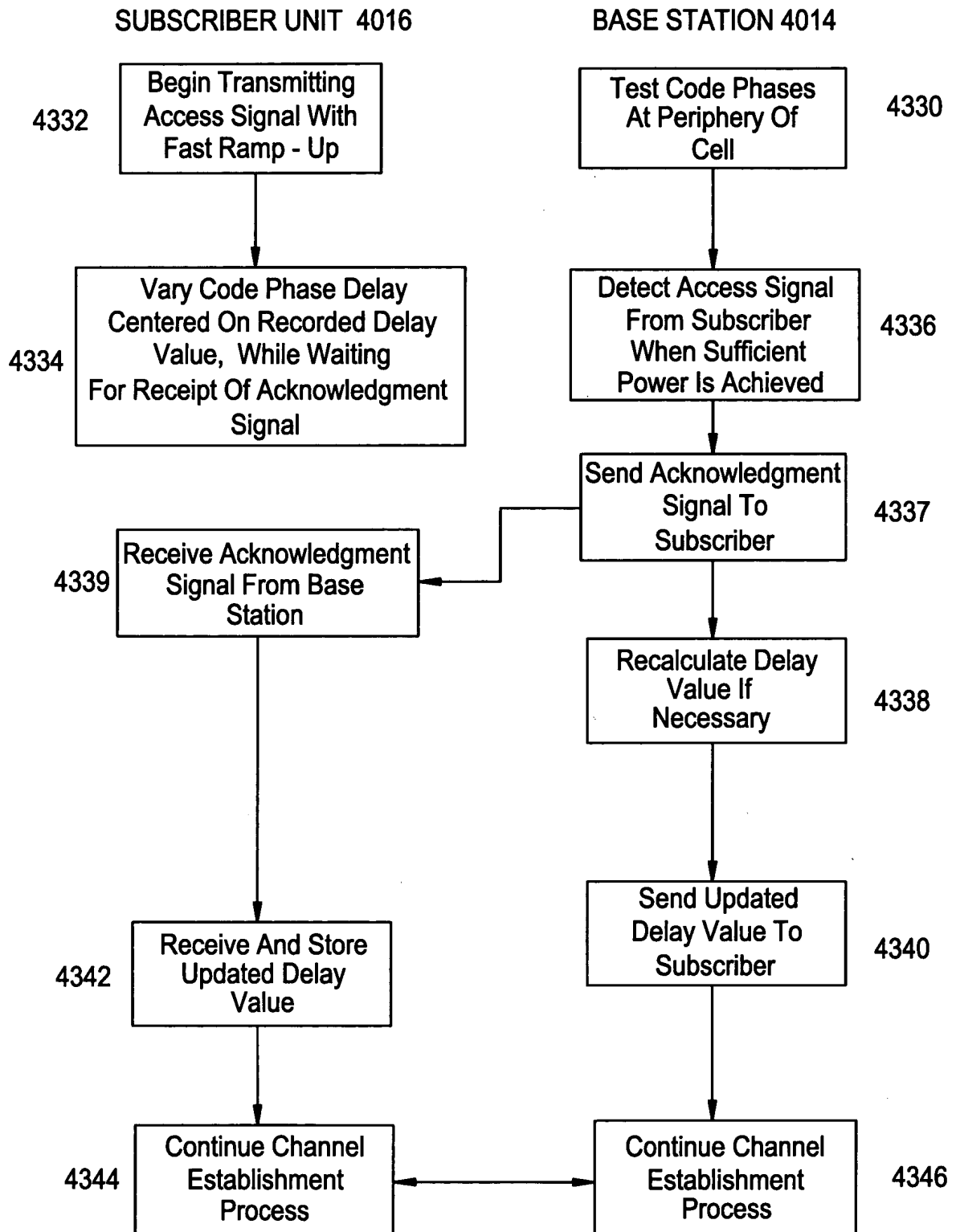


FIG. 53

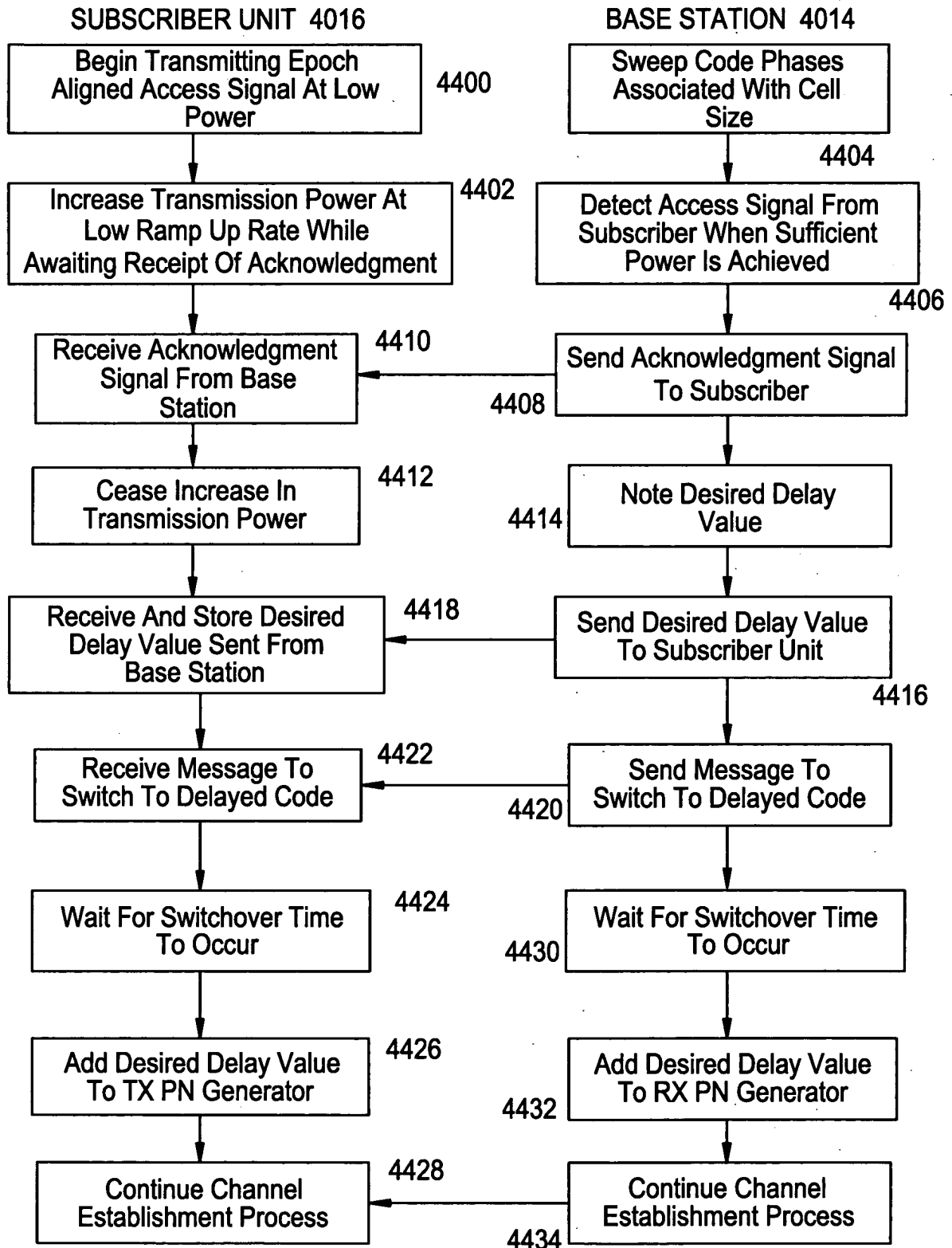


FIG. 54
PRIOR ART

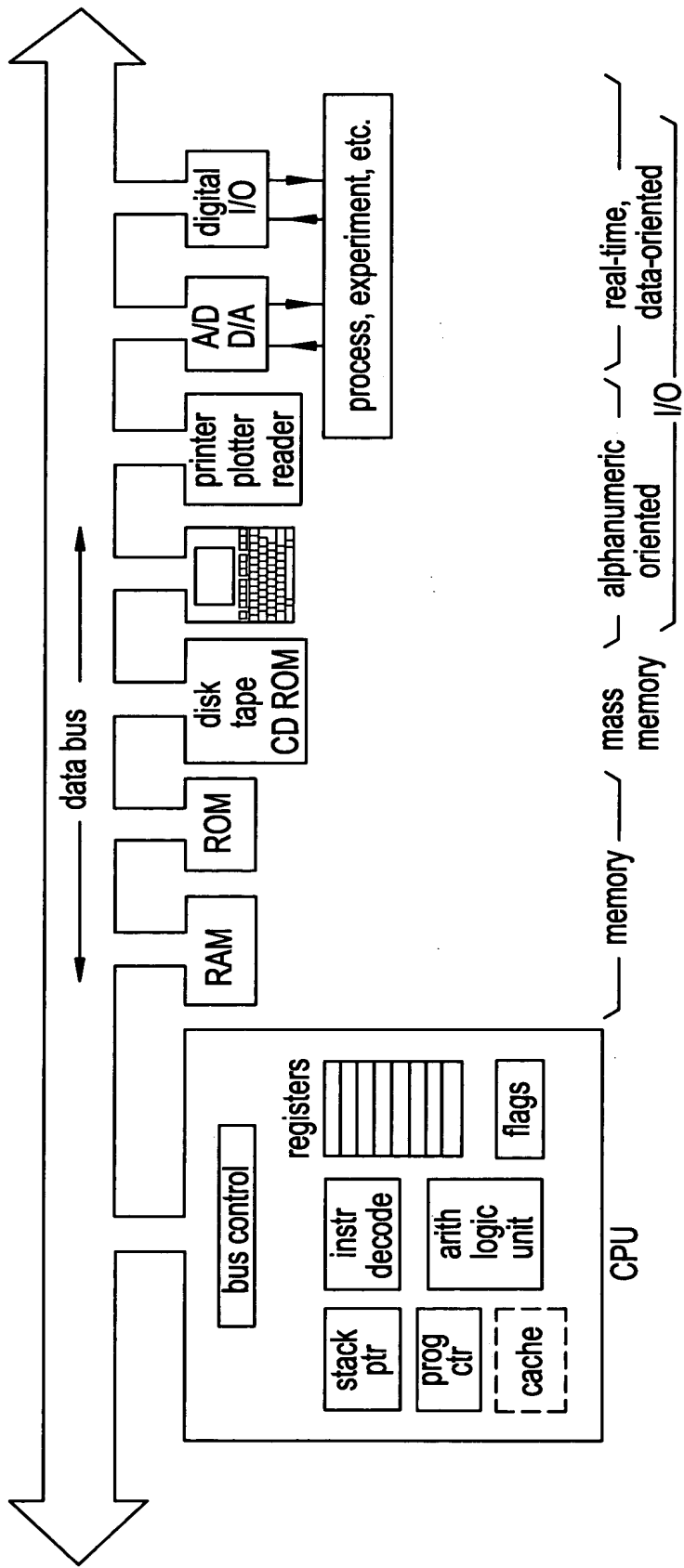


FIG. 55
PRIOR ART

BUS	RAW bandwidth (Mbyte/s)	Data width	Address width	Block xfer?	MUXed data/adr?	Multimaster?	Sync/Async	IRQ Lines a	Drivers	Connector b	Comments
STD bus		8	16	—	—	—	S	1	TTL	CE	controller-type applications
PC/XT	1.2	8	20	—	—	—	S	5E	TTL	CE	original IBM PC & compatibles
PC/AT	5.3	8,16	20,24	—	—	(c)	S	10E	TTL	CE	accepts PC/XT cards
EISA	33	8,16,32	20,24,32	•	—	•	S	11P	TTL	CE	enhanced PC/AT; auto-configure
MicroChannel	20	8,16,(32)	24,(32)	•	—	•	A	11	TTL	CE	IBM PS/2; auto-configure
Q - bus	2	16	22	•	•	•	A	4	(d)	CE	LSI-11, μ VAX-I,II;daisy-chained IACK
Multibus I	10	8,16	20,24	—	—	•	A	8	TTL	CE	Intel; SUN-I and others
CAMAC	3	24	9	•	—	—	S	L	TTL/OC	CE	data acquisition & control bus
VAX BI	13.3	8,16,24,32	32	•	•	•	S	4	TTL	ZIF	VAX 780, 8600 series; parity
Multibus II	40	8,16,24,32	16,32	•	•	•	S	M	TTL	DIN	parity; 40MB/s for blk xfer, 20M otherwise
NuBus	40	32	32	•	•	•	S	M	TTL	DIN	Macintosh II adds 1 dedicated INT per slot; ""
VME	40	8,16,32	16,24,32	•	—	•	A	7	TTL	DIN	daisy-chained IACK; SUN-3
Futurebus	120										
Fastbus	160	32	32	•	•	•	A	—	(d)	H	communication across many crates
							A	M	ECL		

(a) E-edge-sensitive; L-LAM ("look at me"); M-"int" via bus mastership;
P-programmable edge-or level-sensitive interrupts.

(b) CE-card-edge; DIN-2-part "Eurocard" 96-pin connector;
H-high density 2-part conn. (c) almost. (d) National Semi special.

FIG. 56

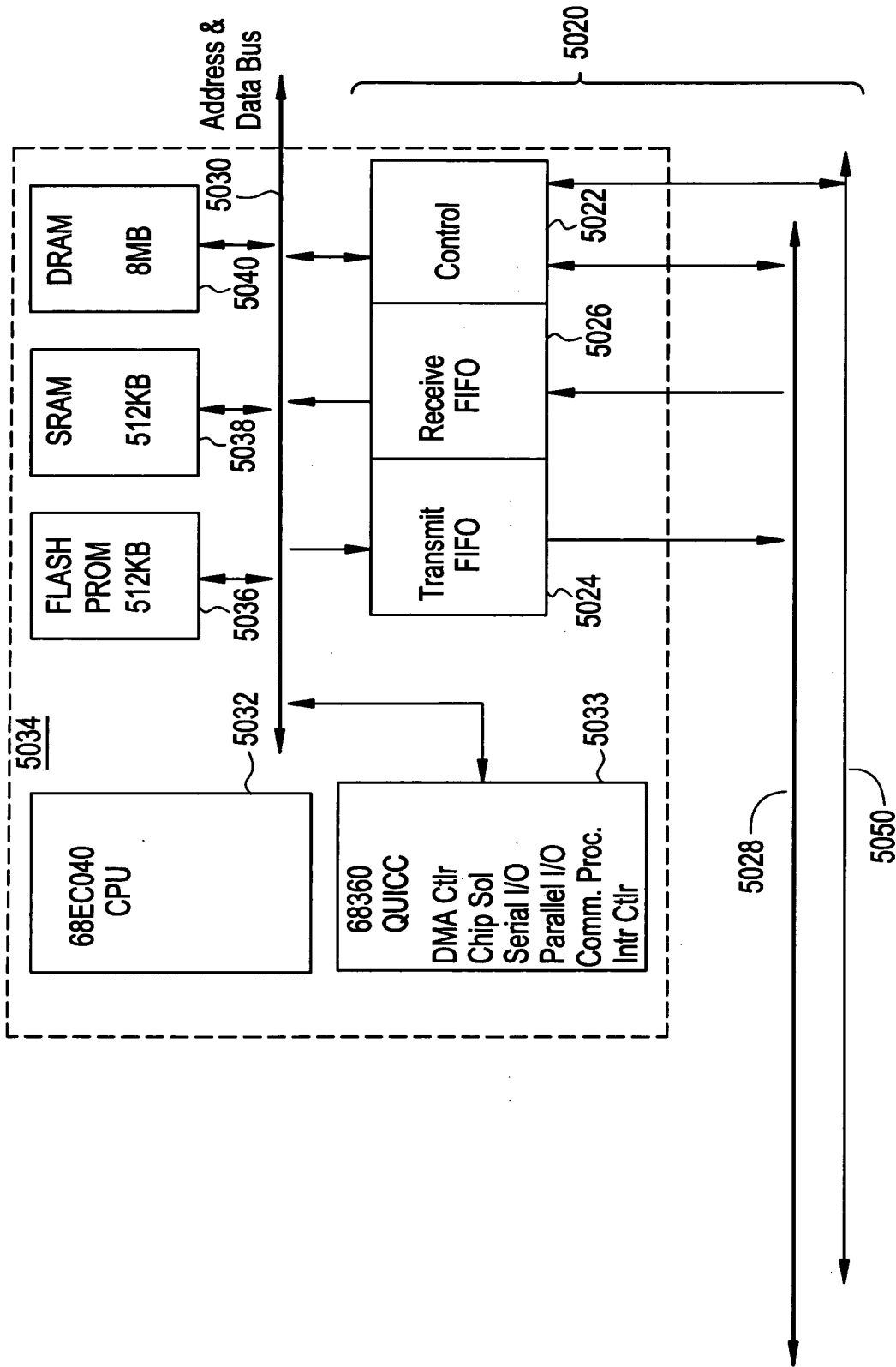


FIG. 57A

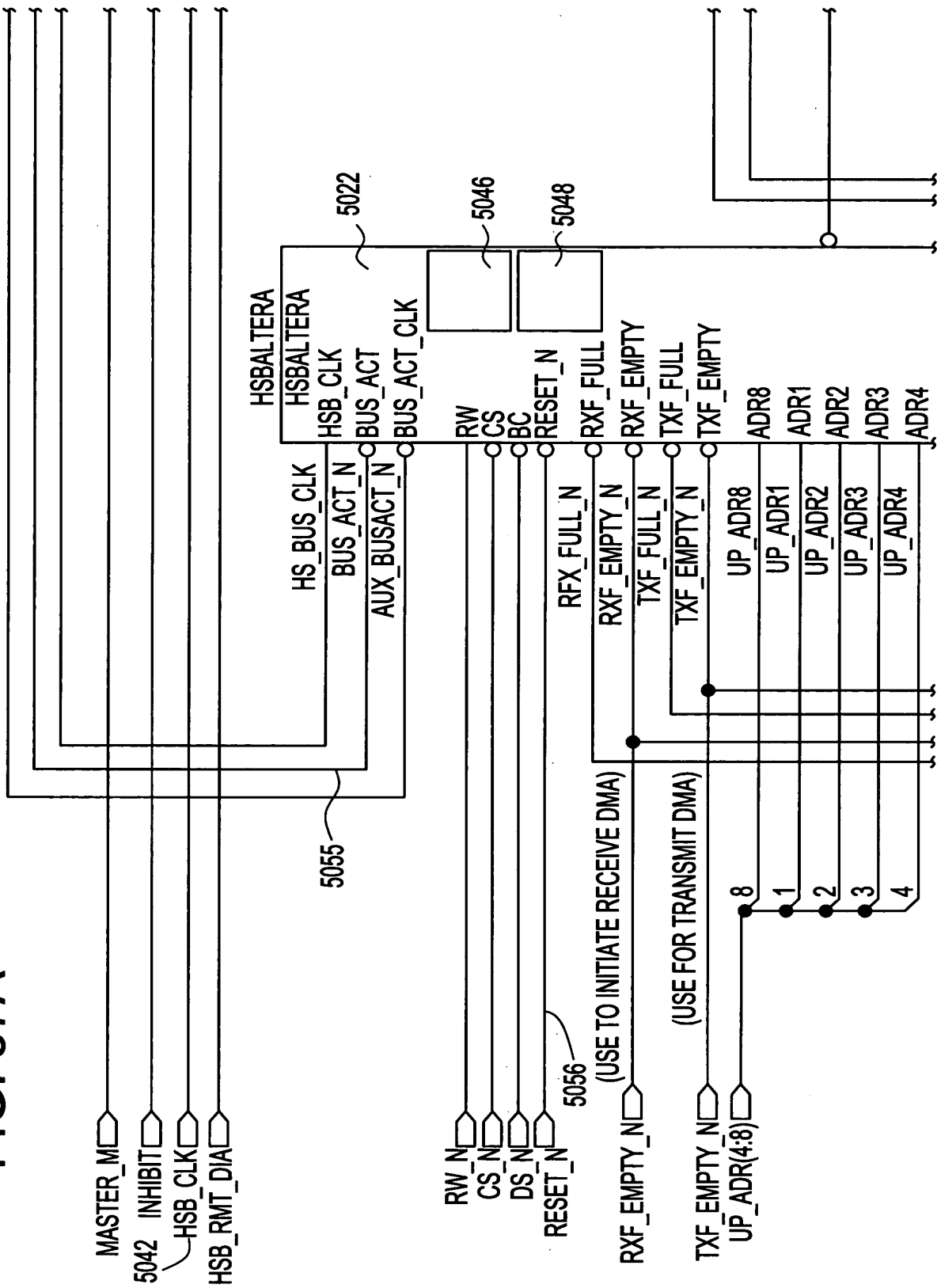


FIG.57B

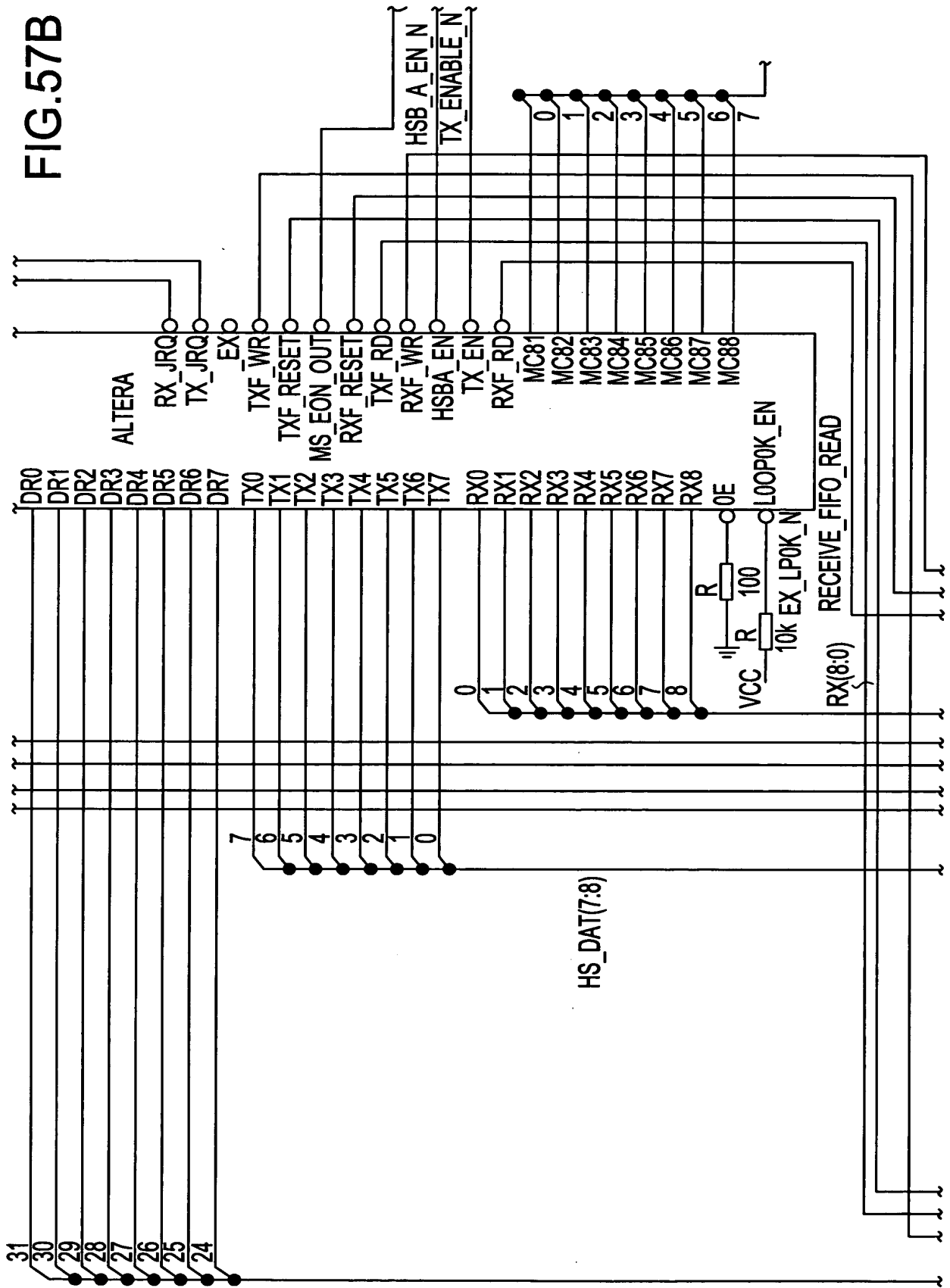


FIG. 57C

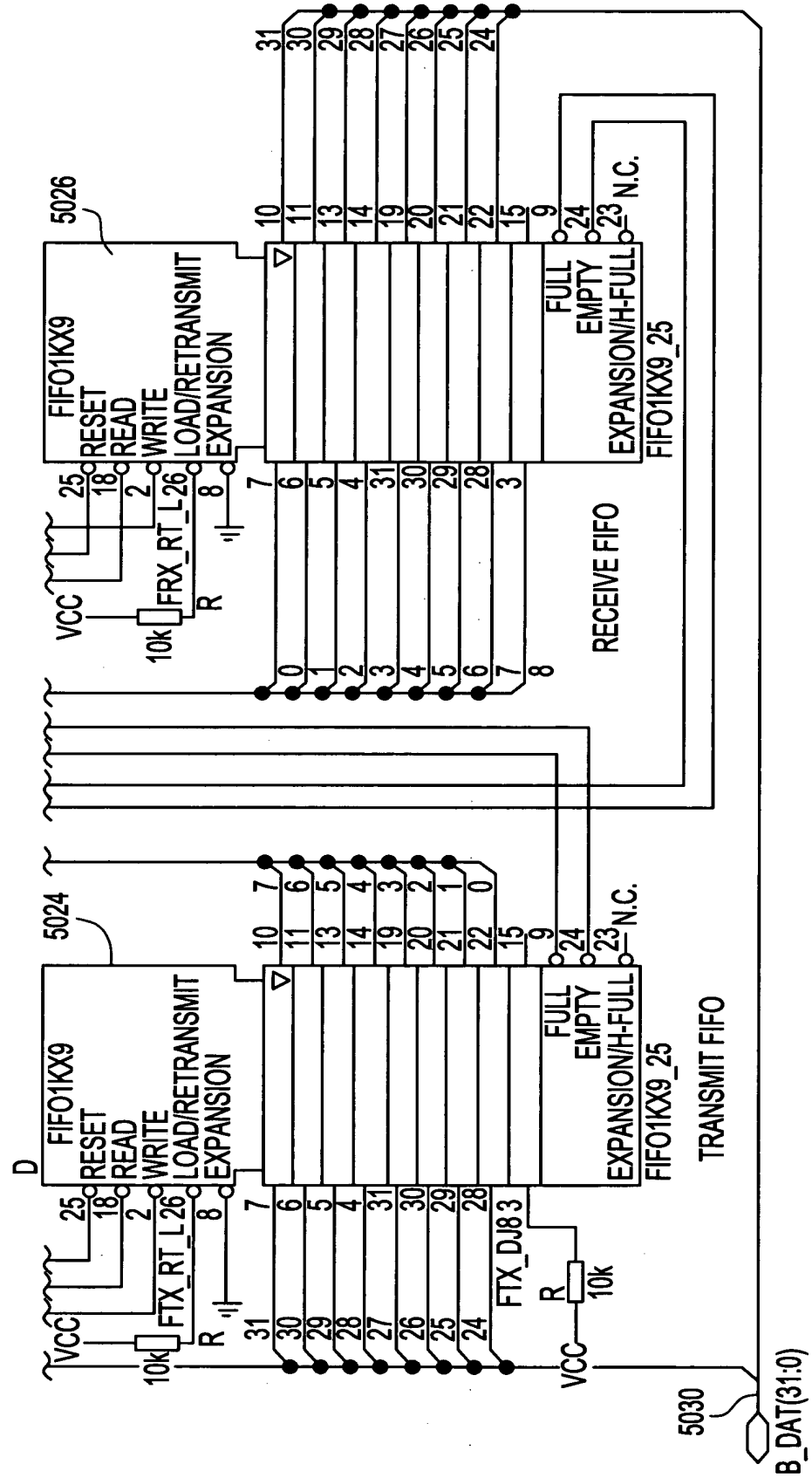


FIG. 57D

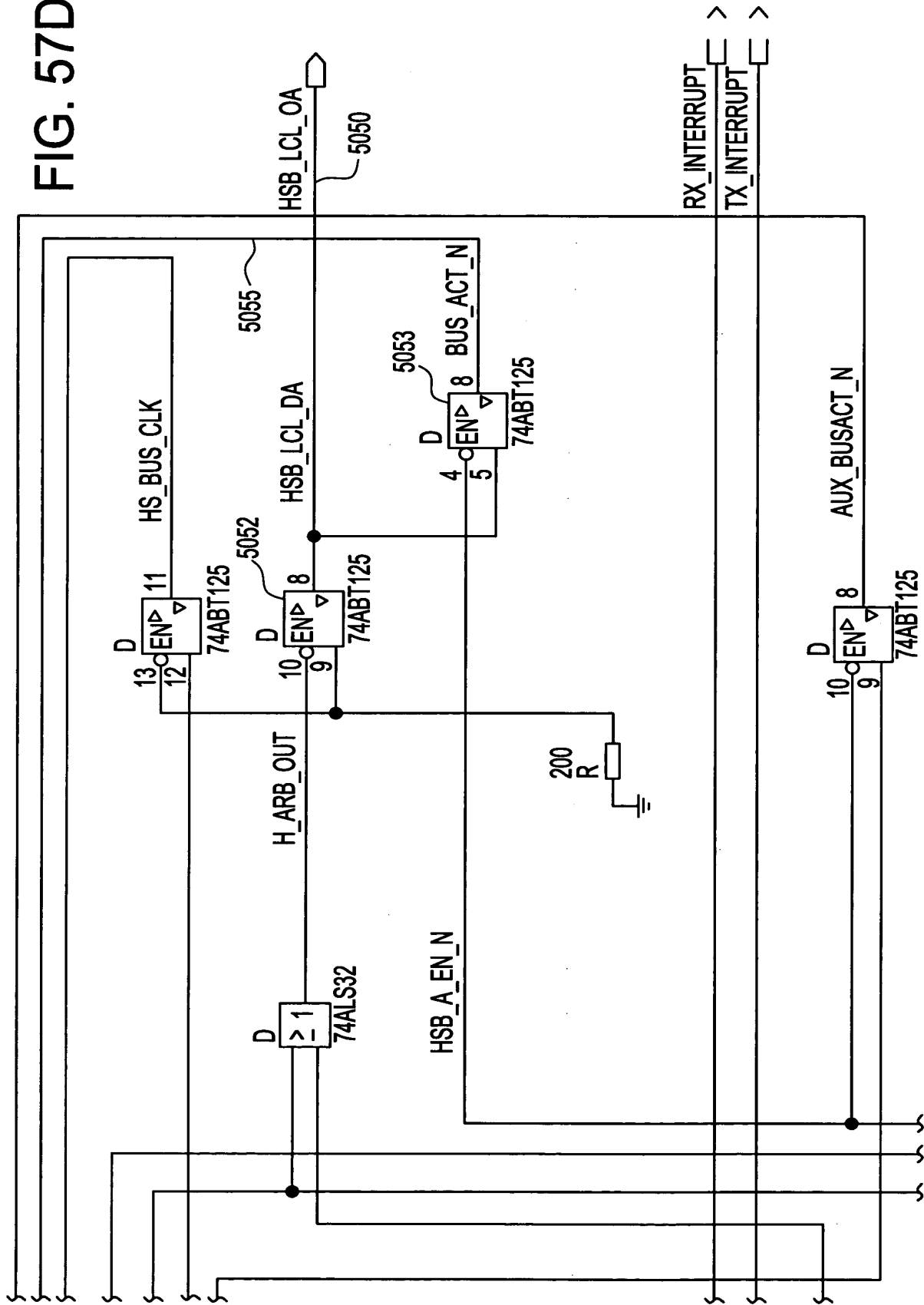


FIG. 57E

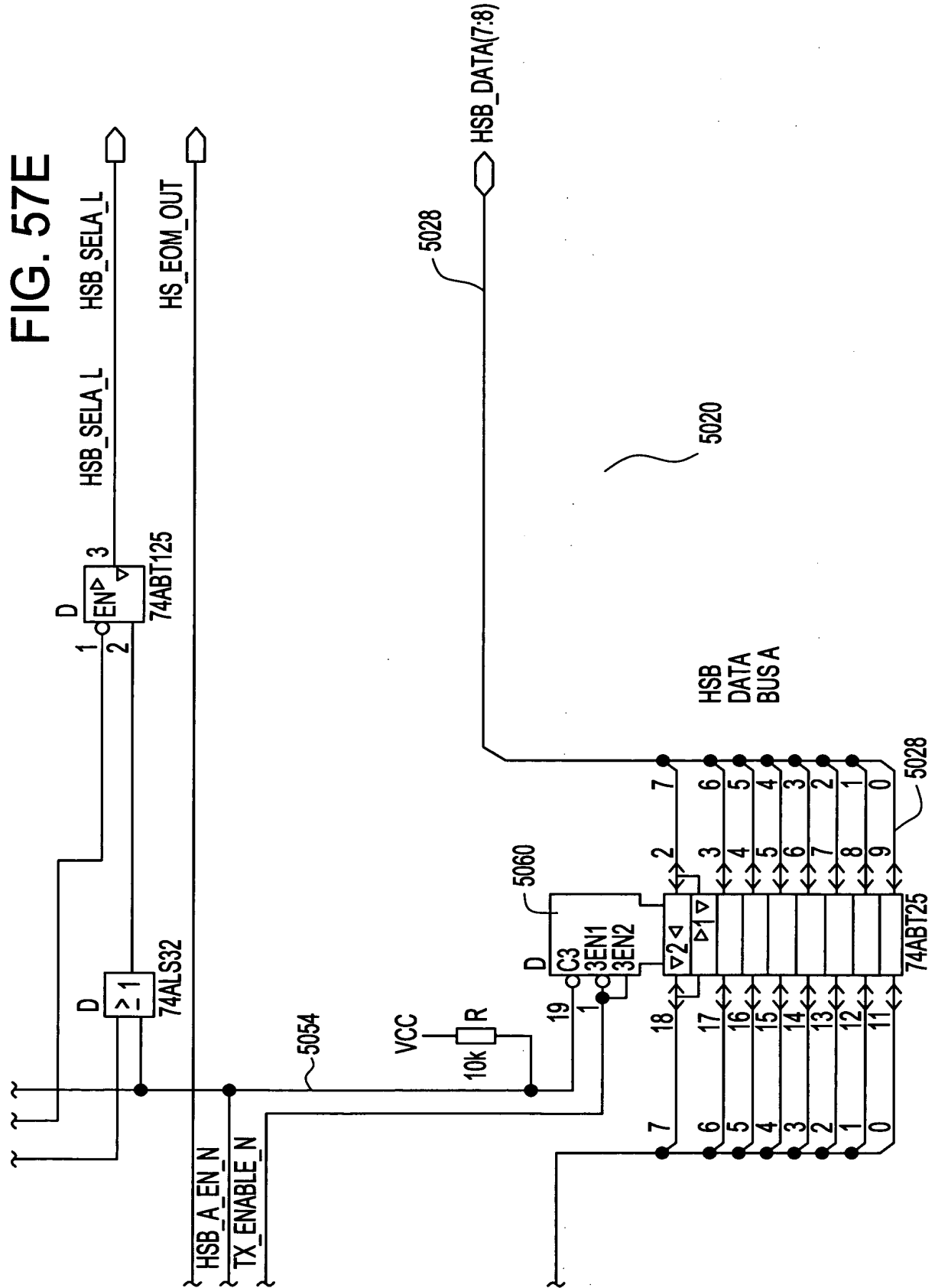


FIG. 58

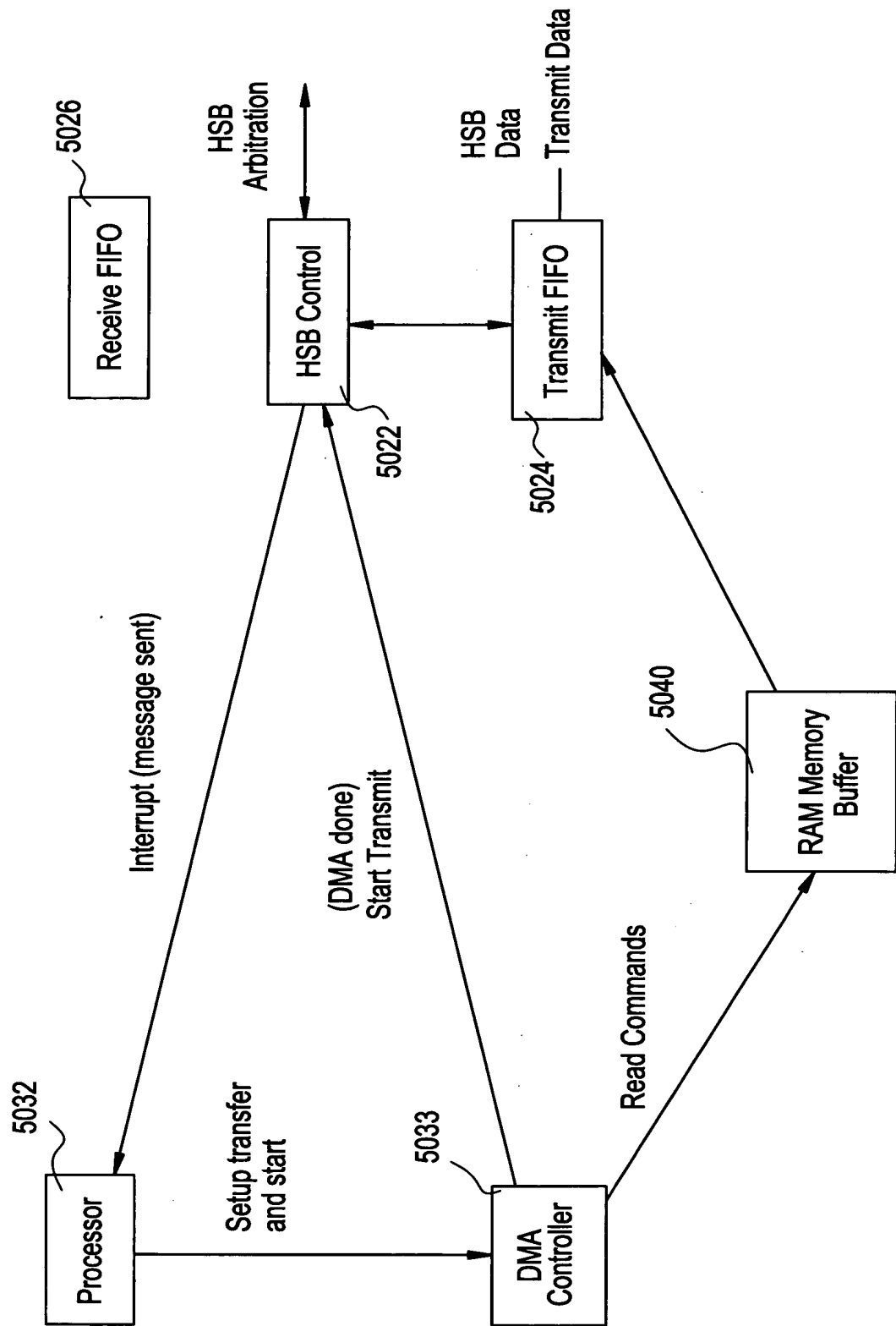


FIG. 59

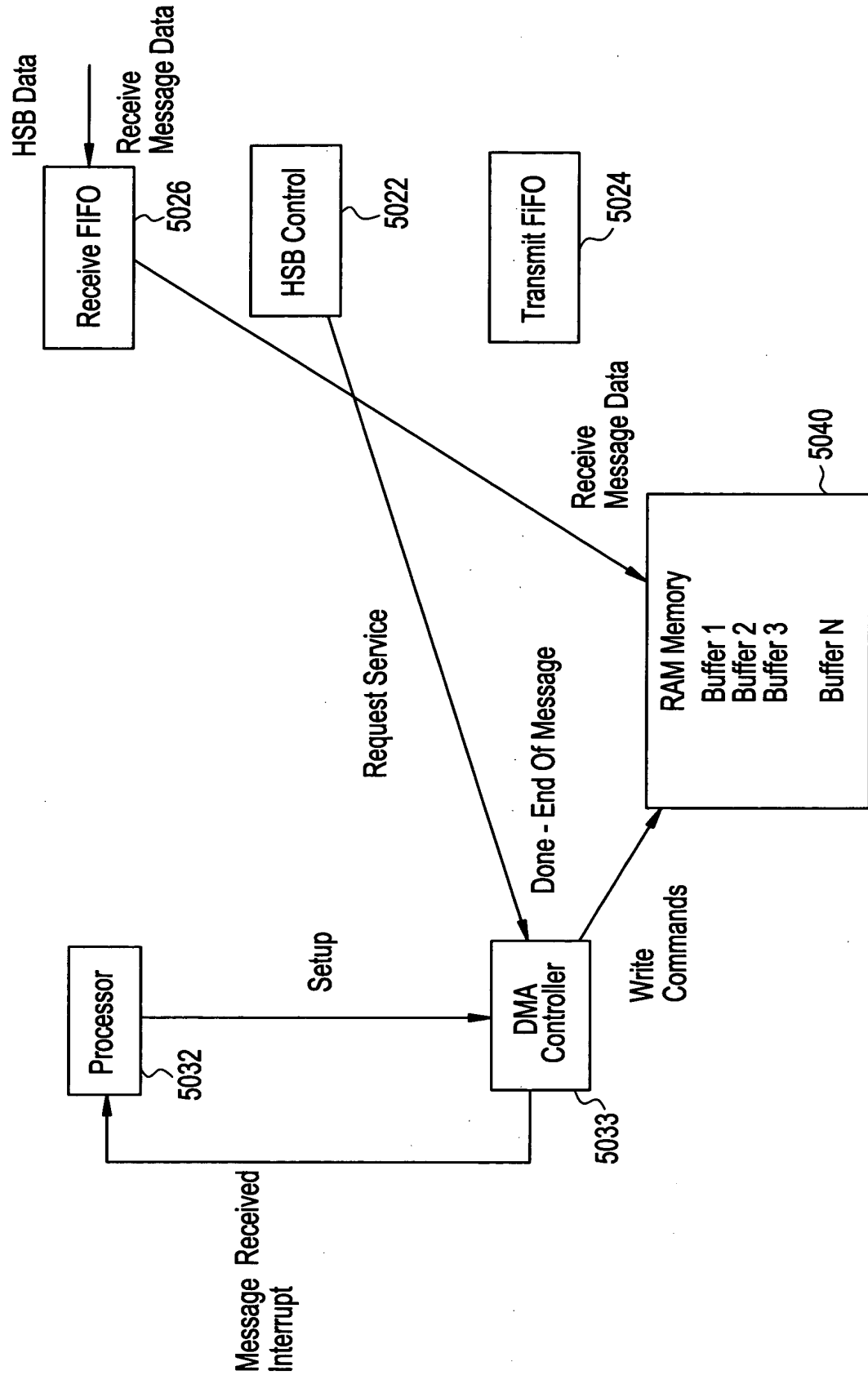


FIG. 60

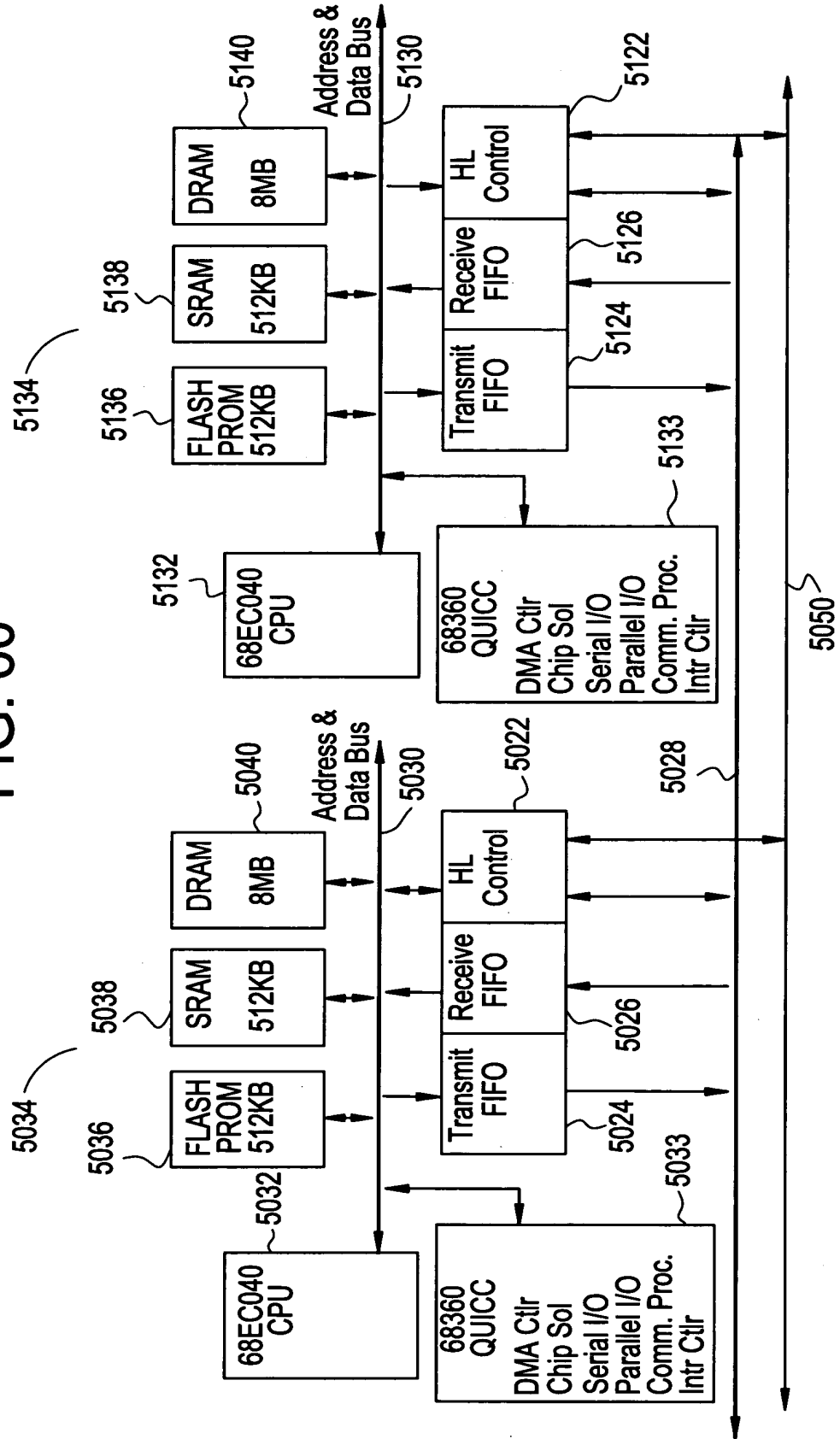


FIG. 61

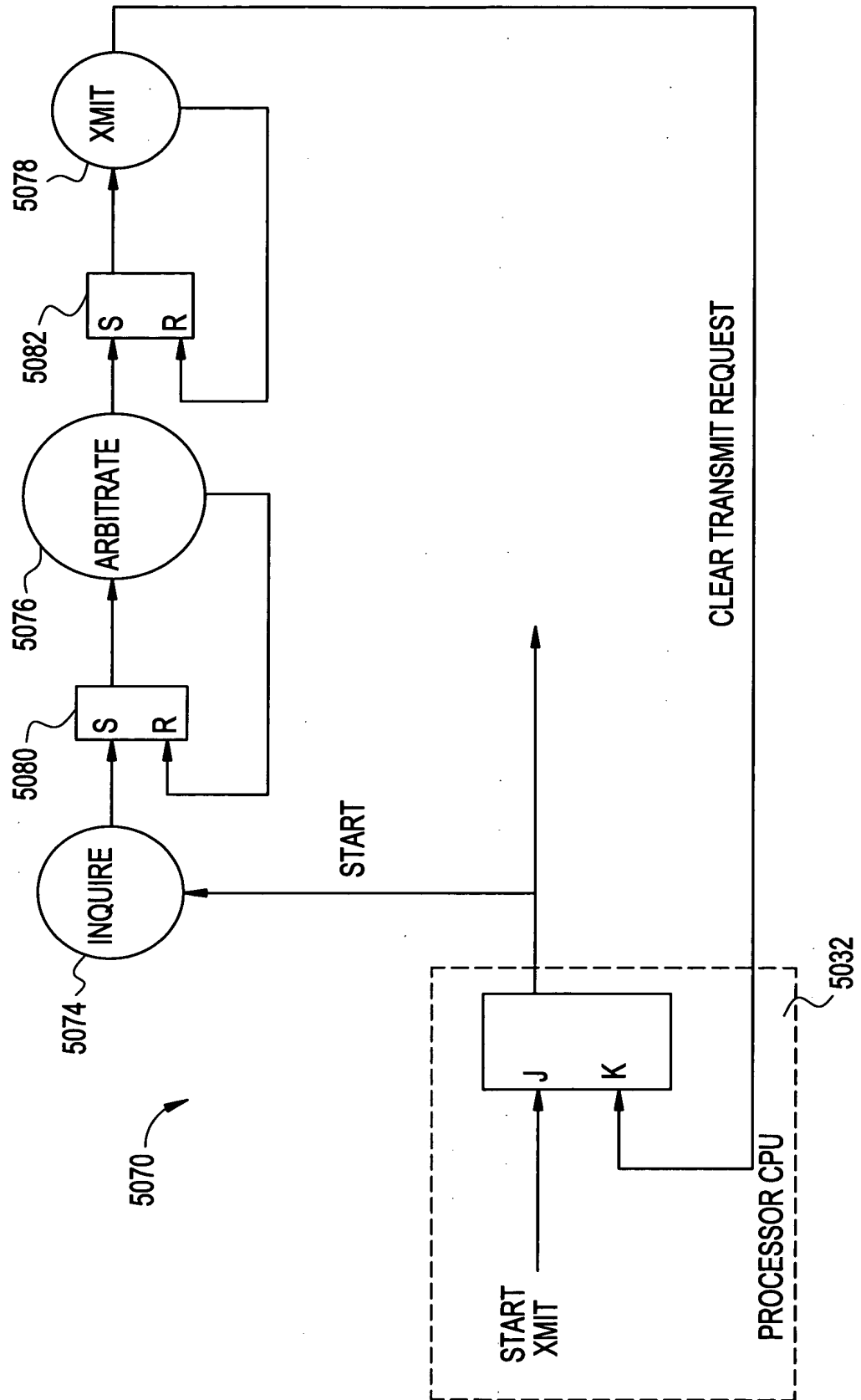


FIG. 62

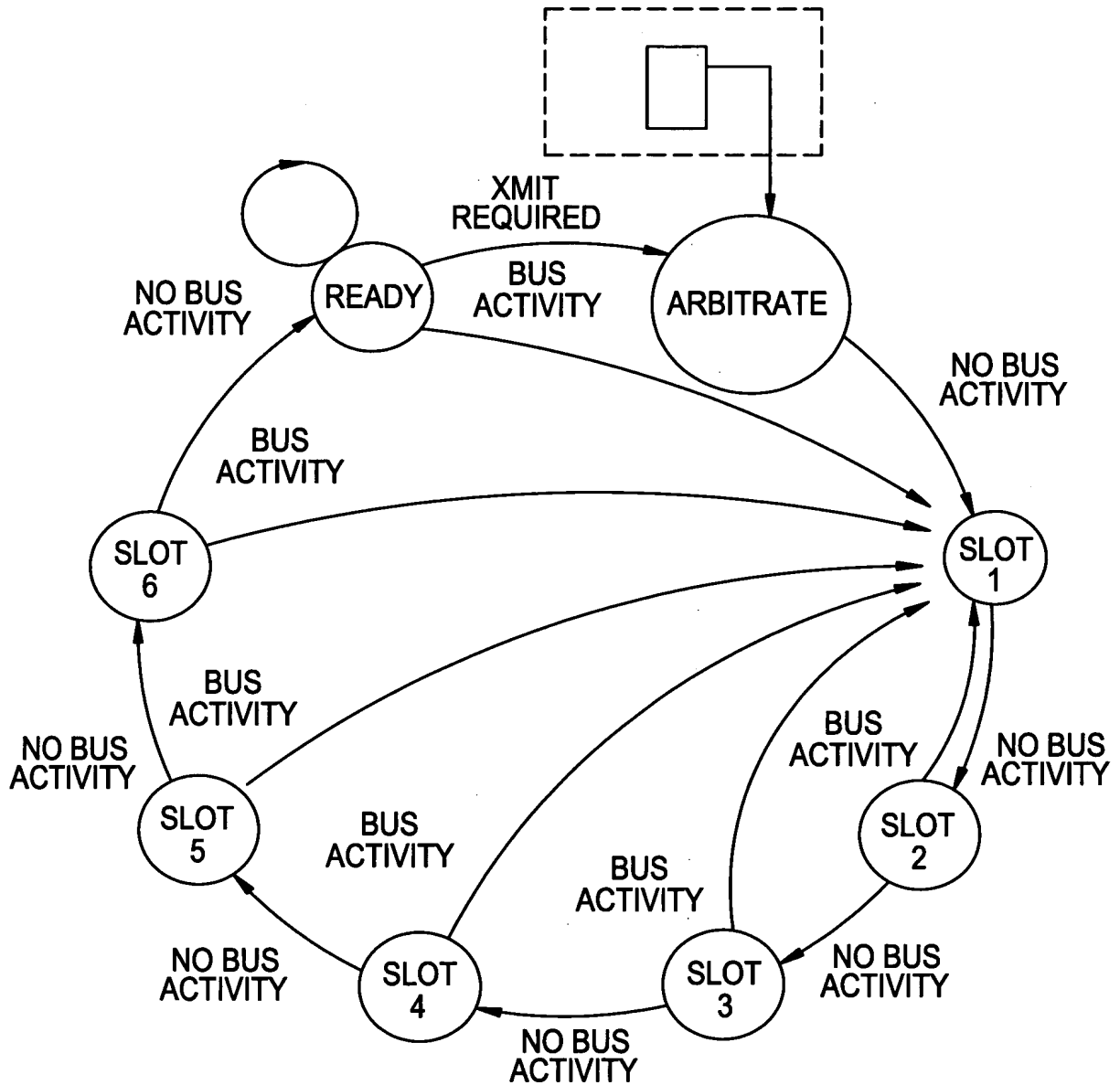


FIG. 63

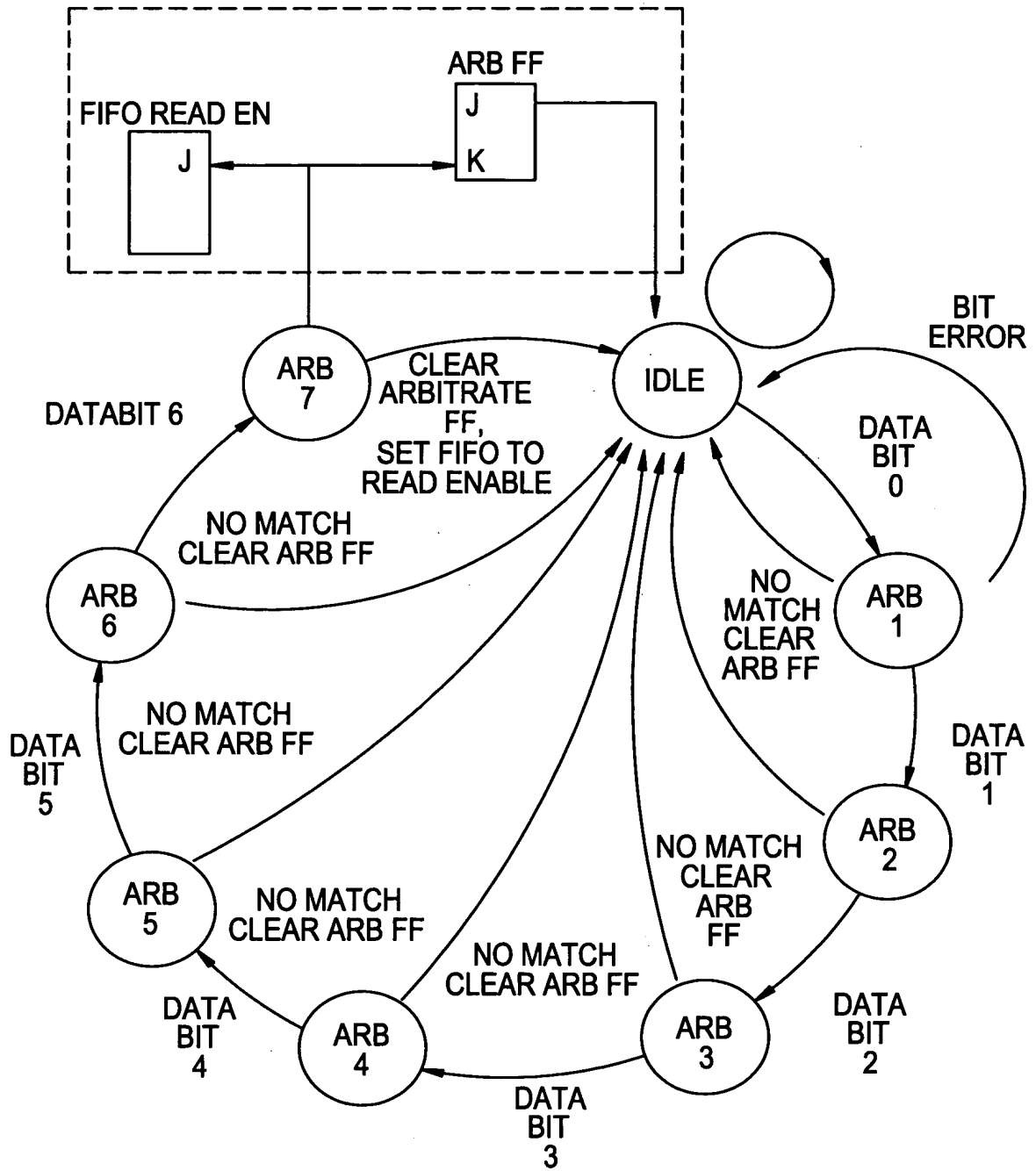


FIG. 64

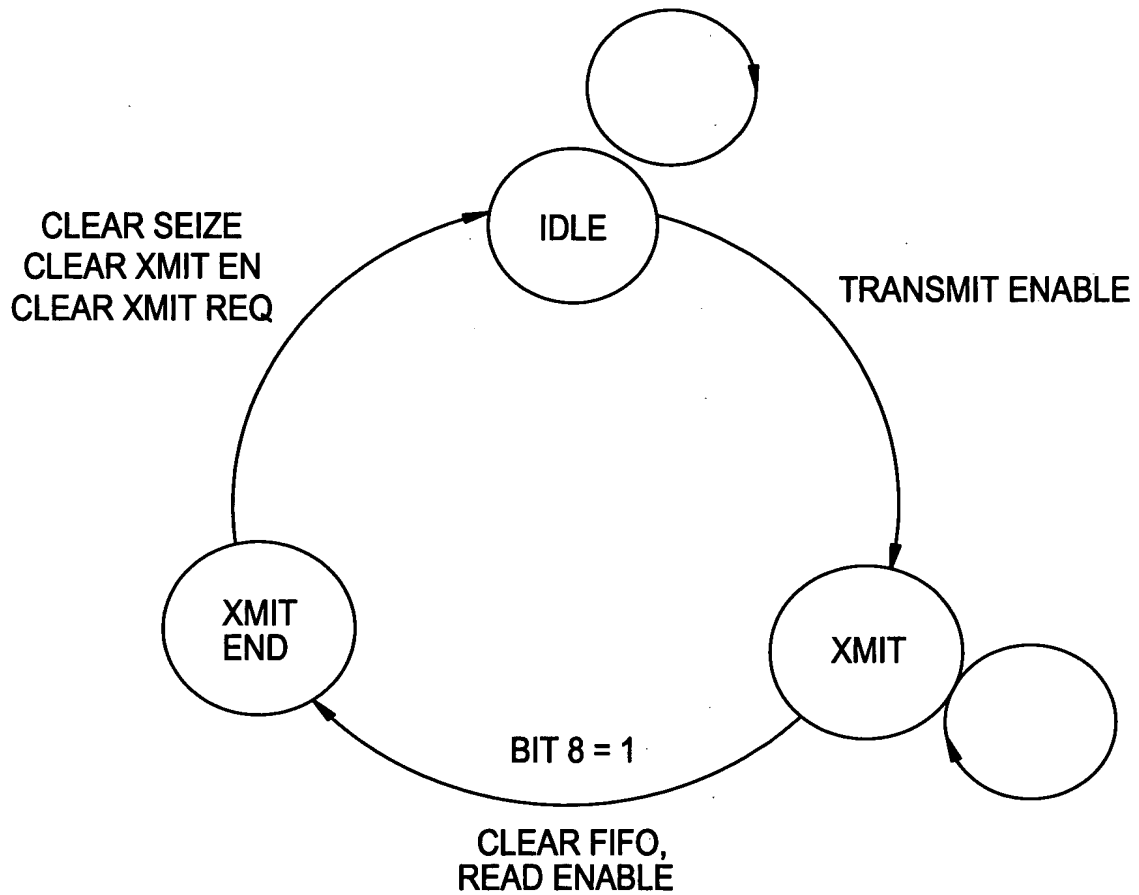


FIG. 65

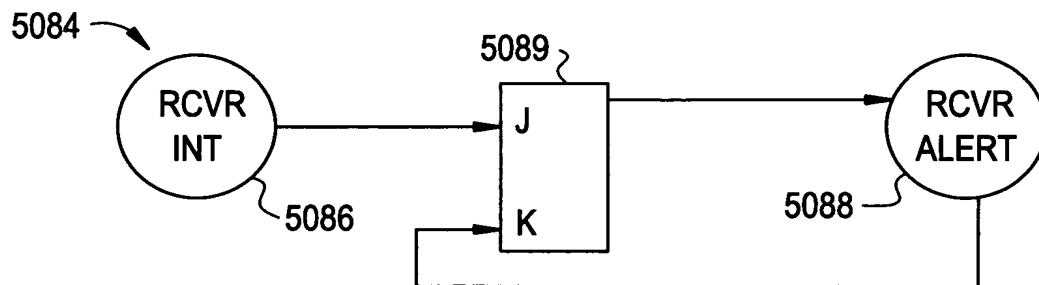


FIG. 66

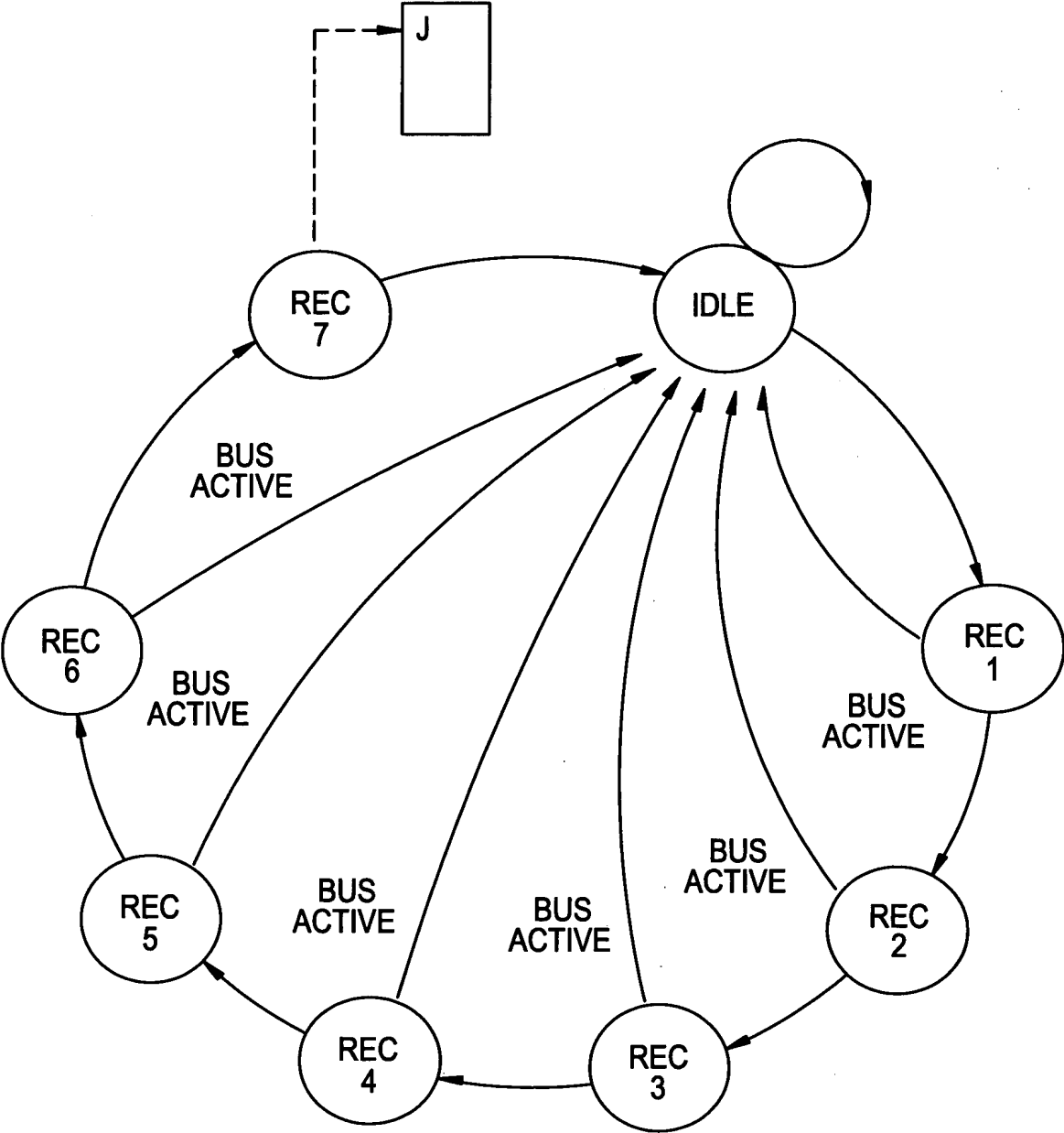


FIG. 67

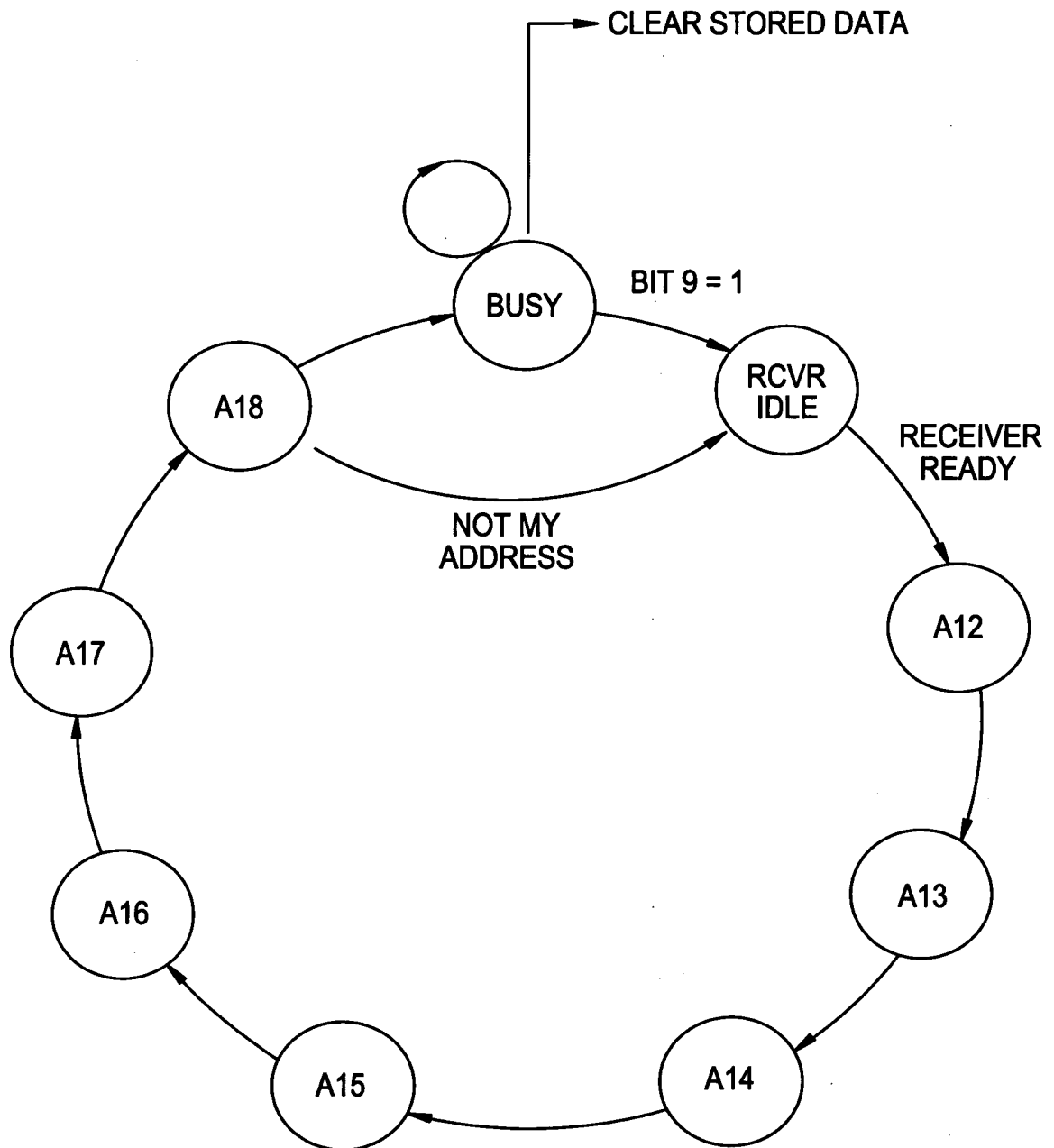


FIG. 68

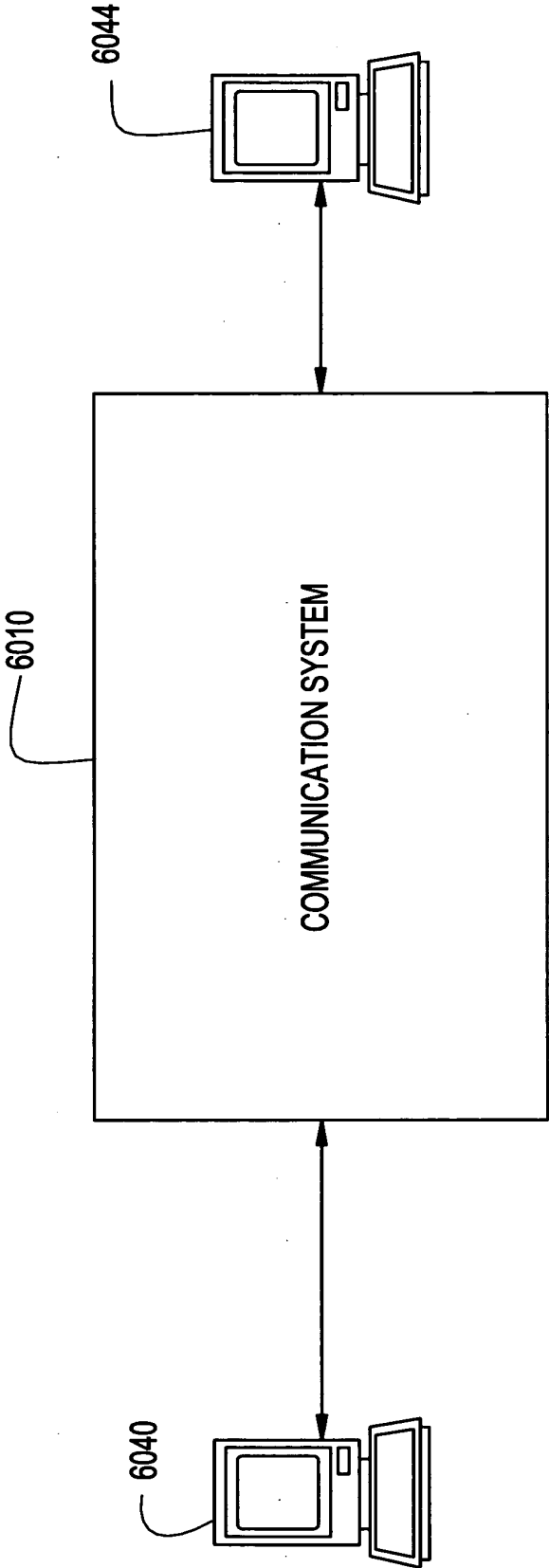


FIG. 69
PRIOR ART

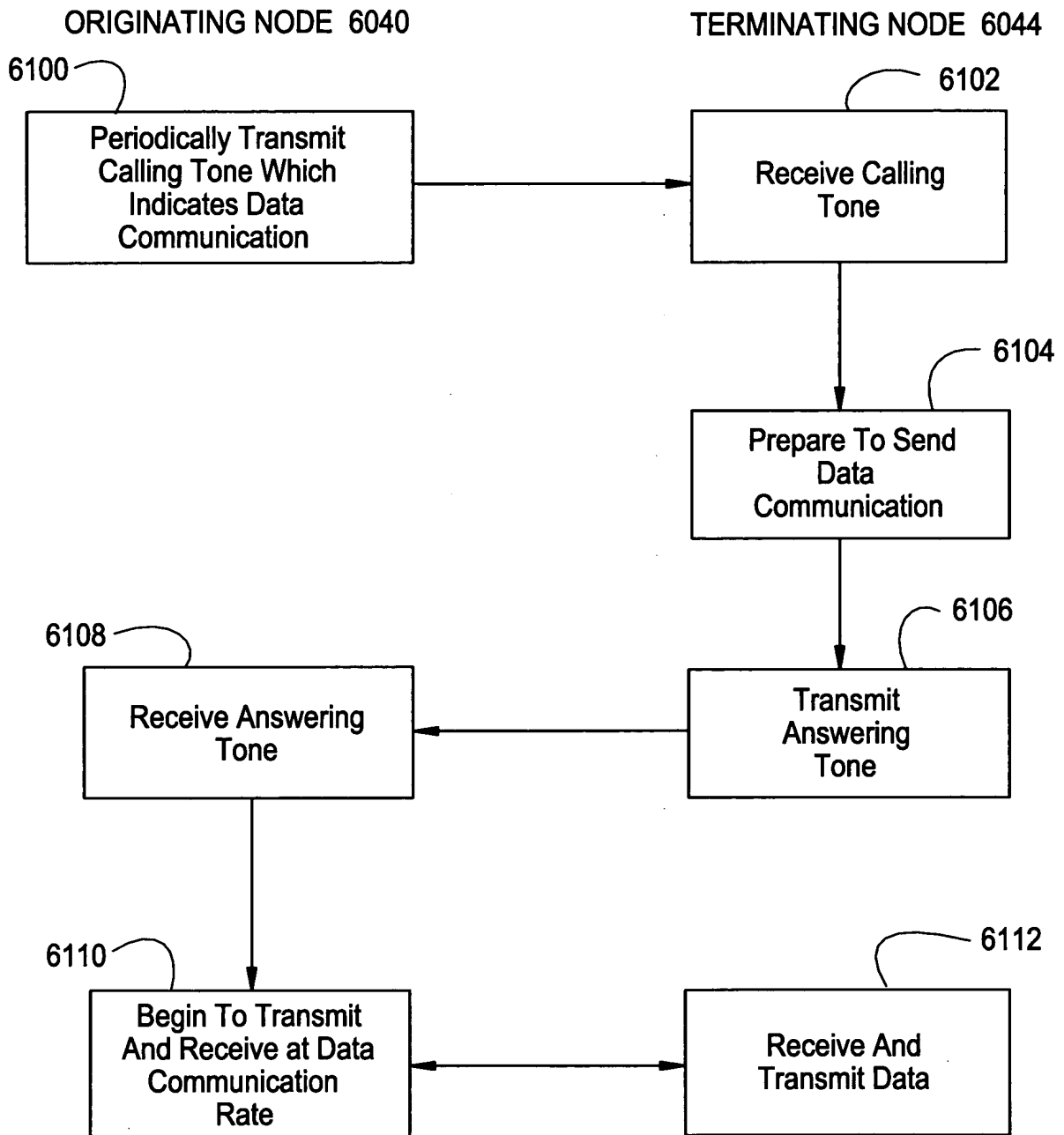


FIG. 70

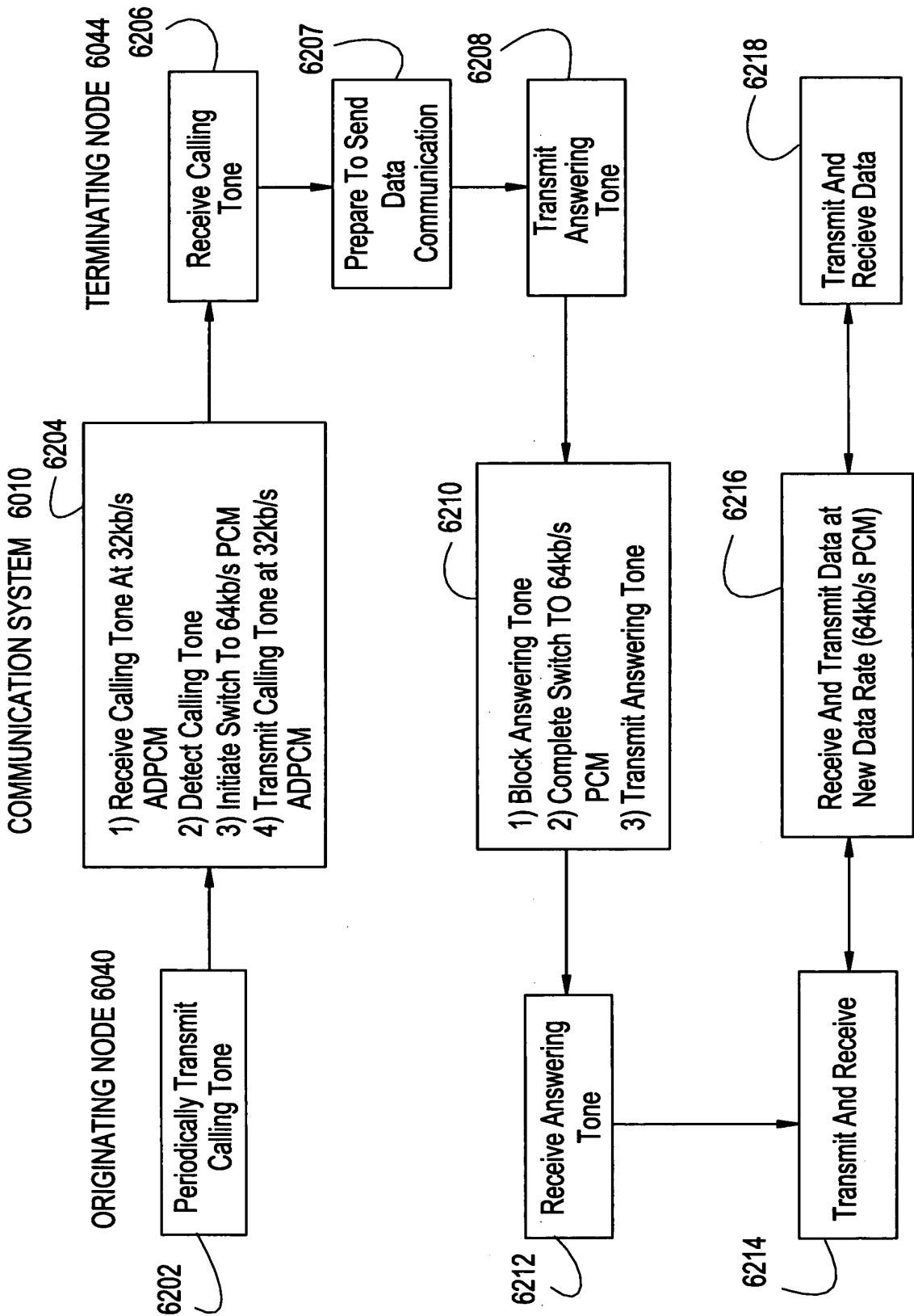


FIG. 71

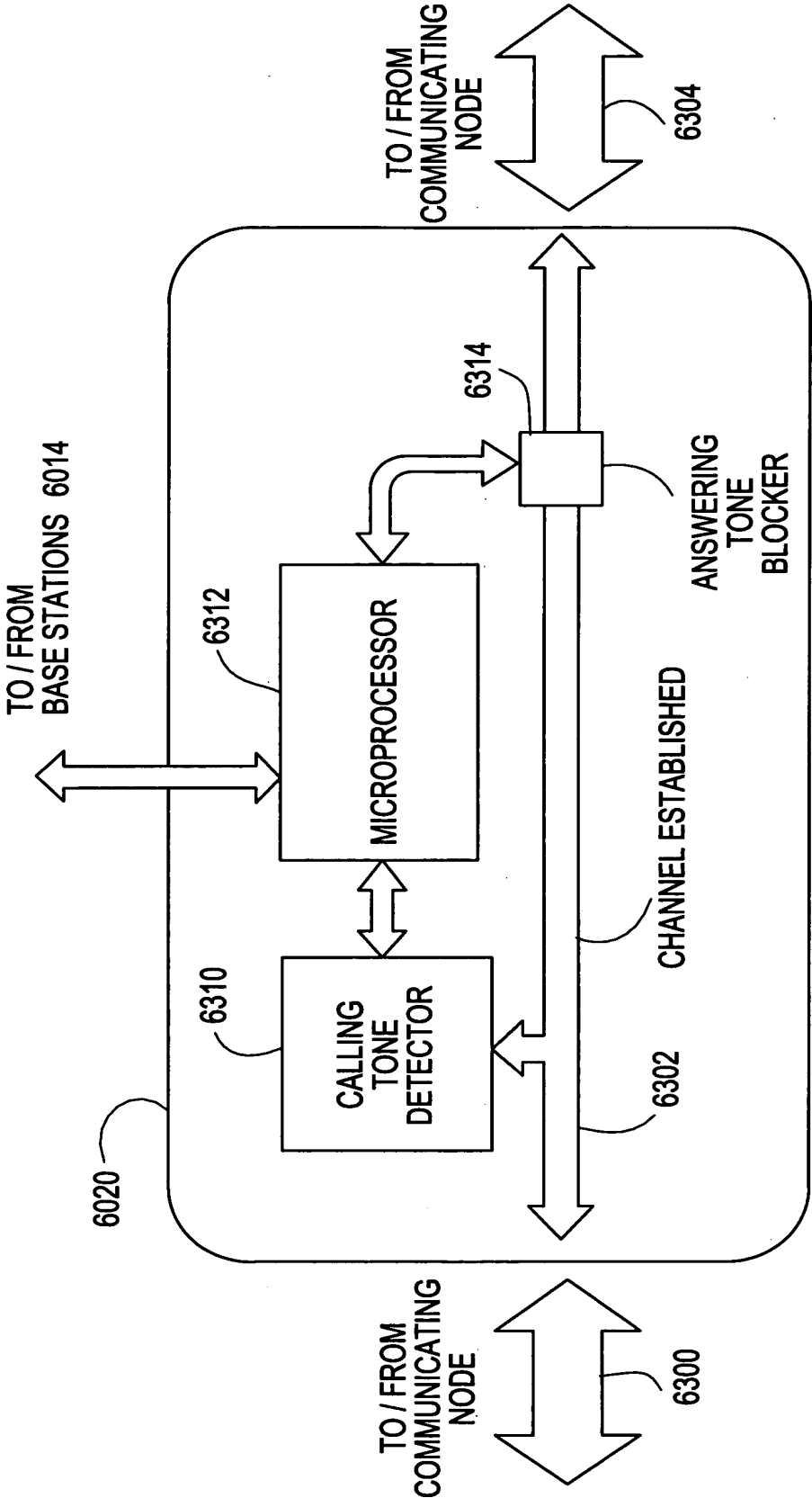


FIG. 72
PRIOR ART

7020

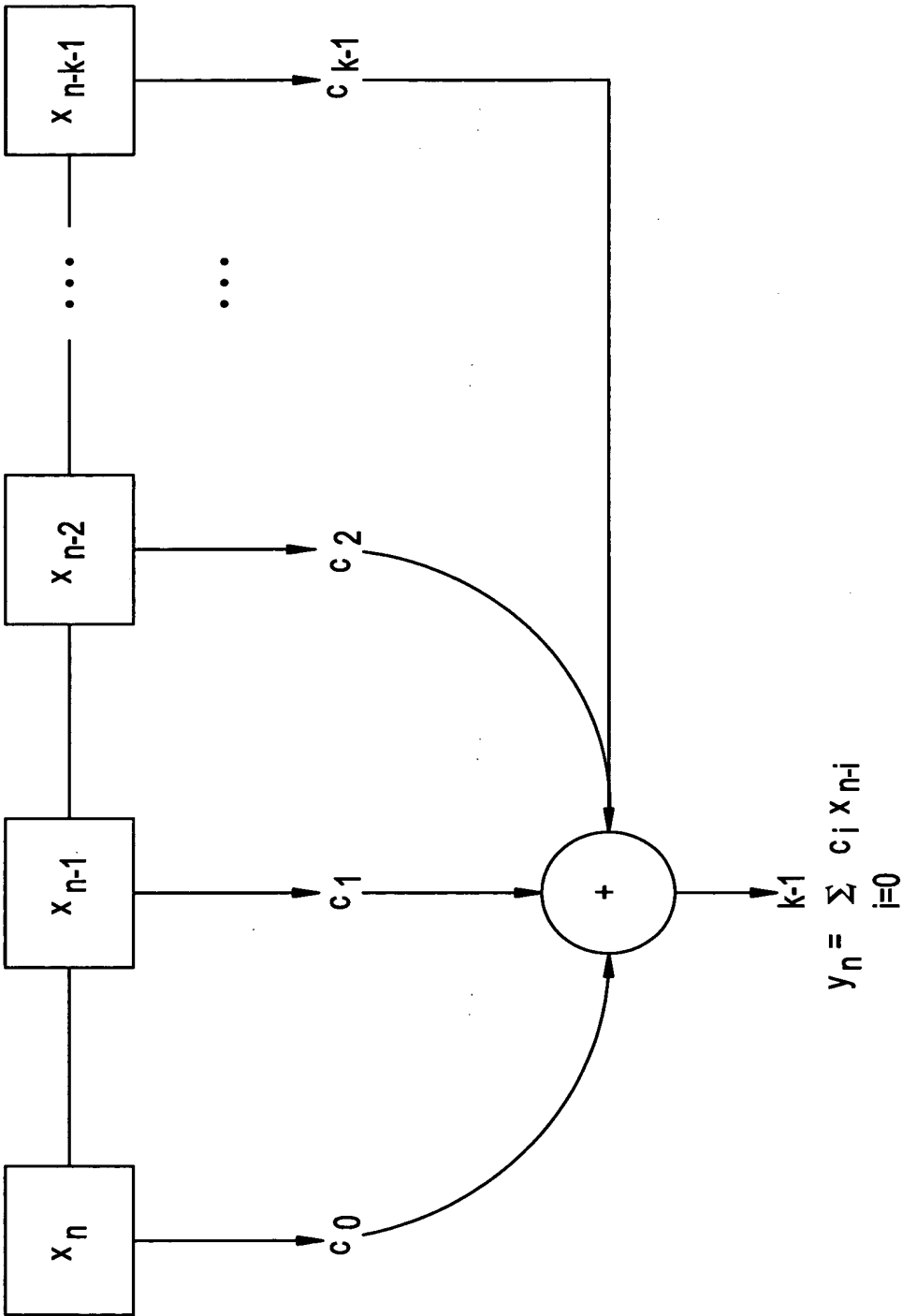


FIG. 73
PRIOR ART

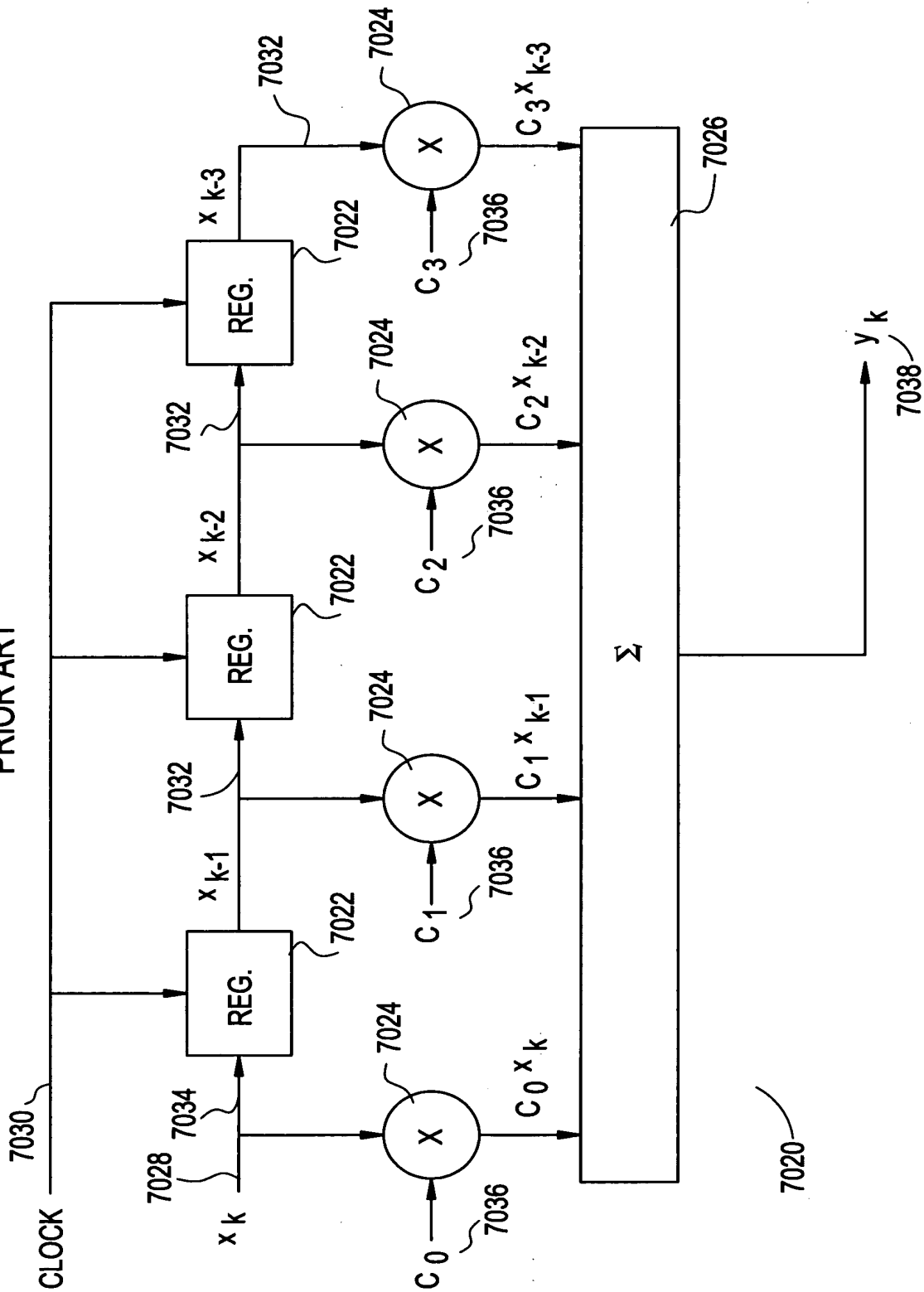


FIG. 74
PRIOR ART

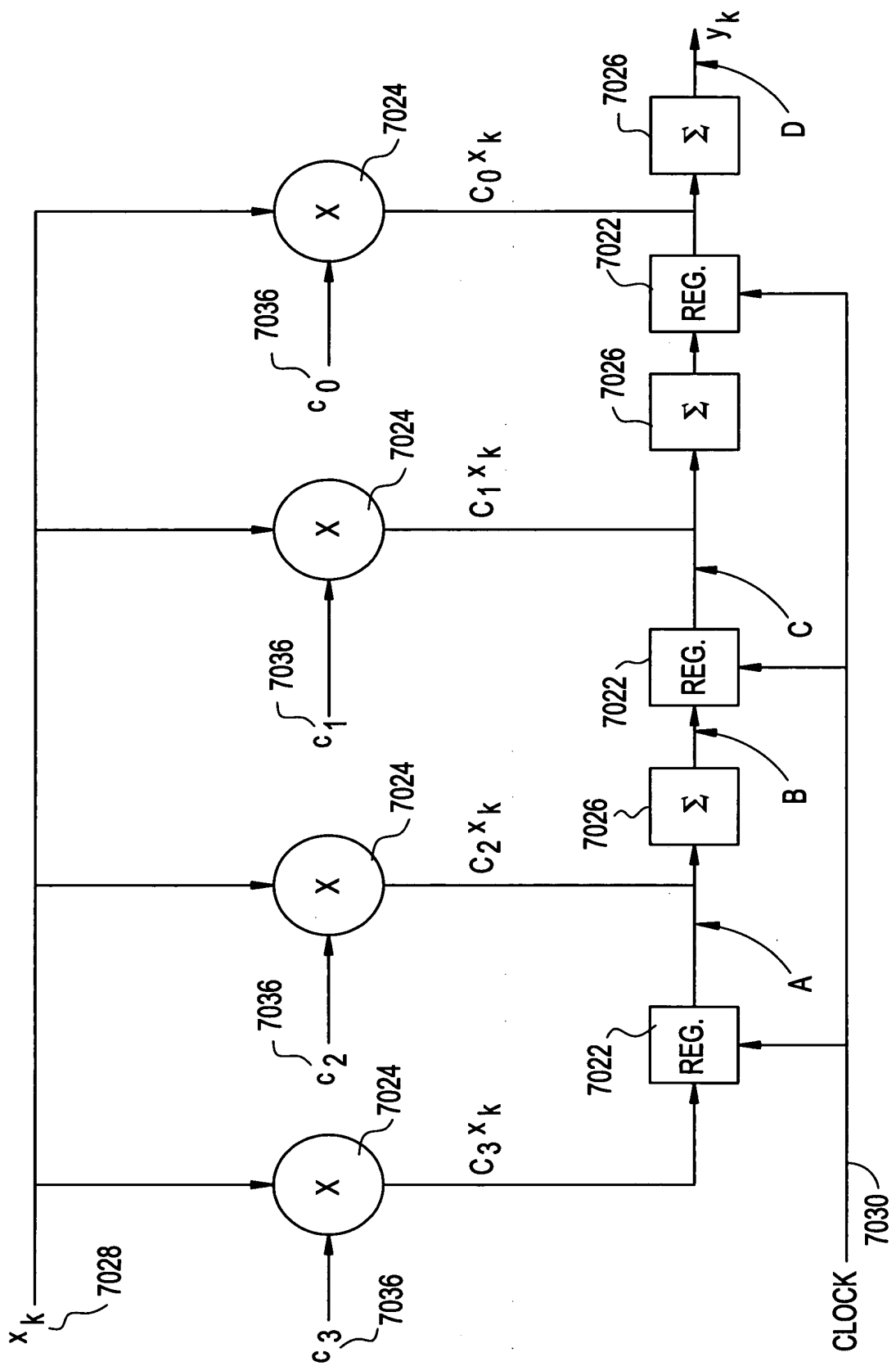
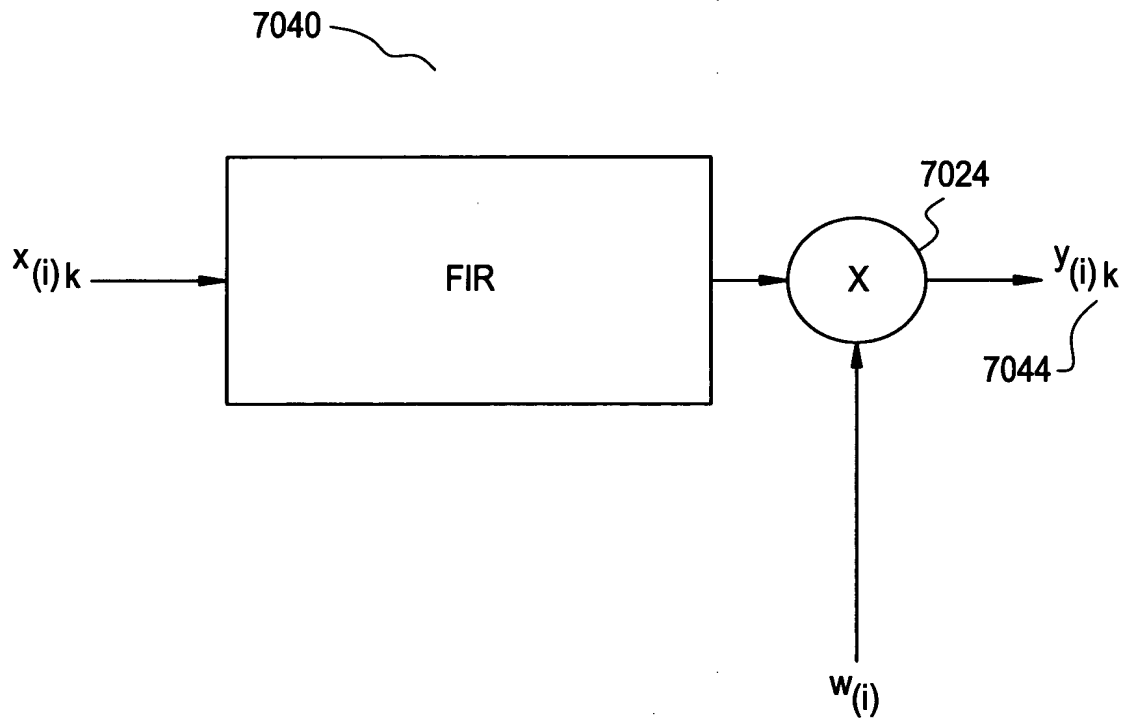


FIG. 75A



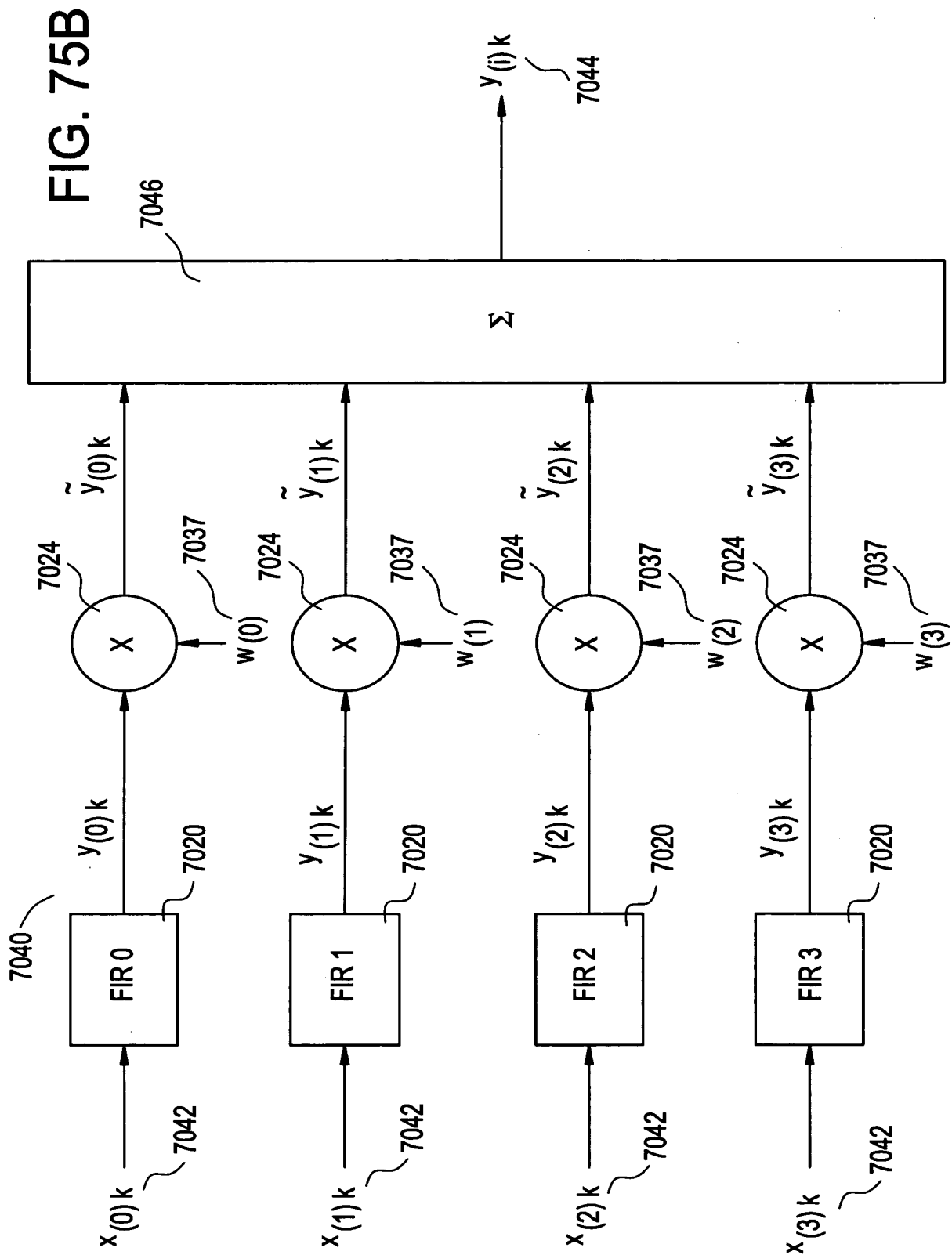


FIG. 76

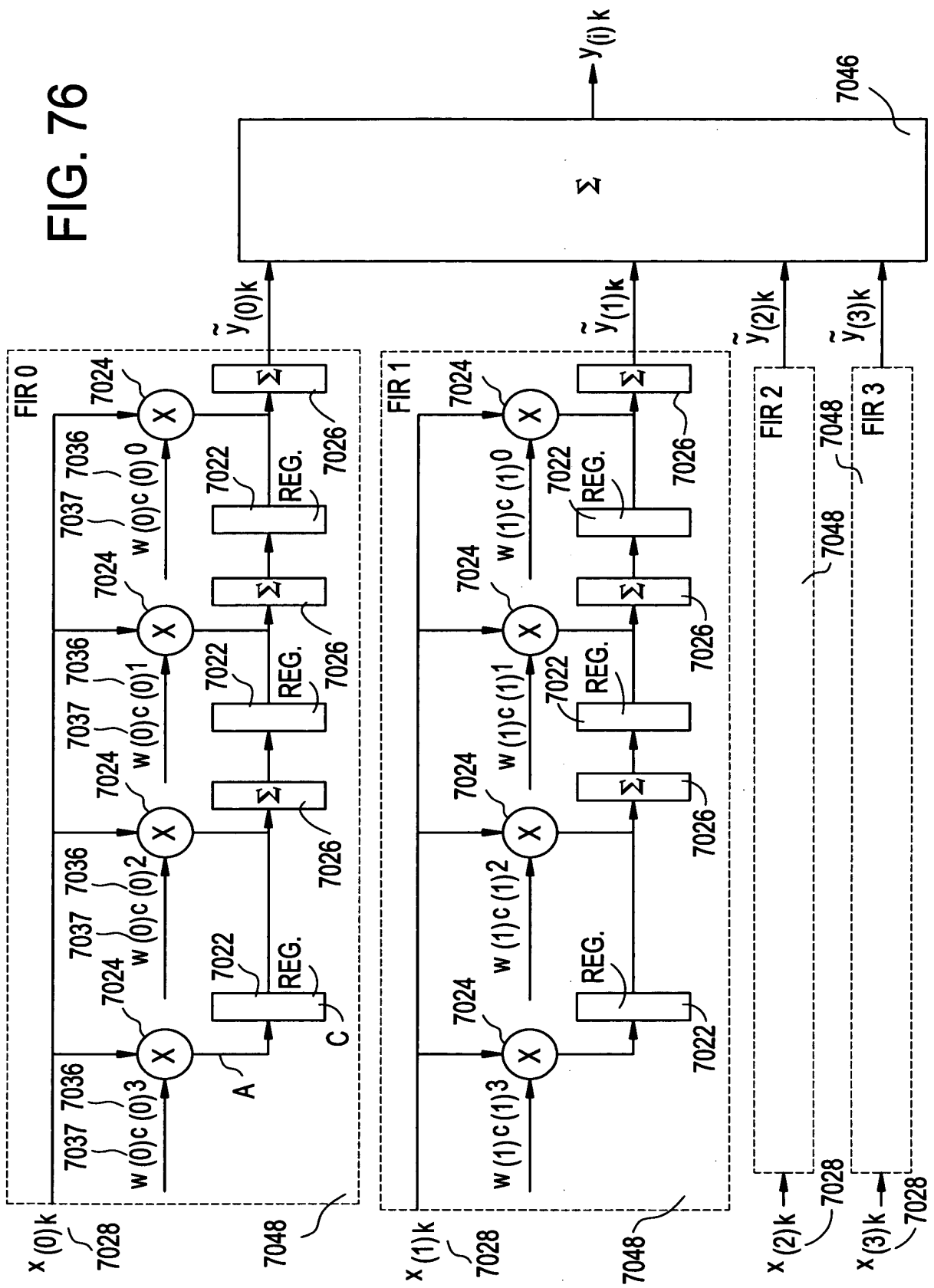


FIG. 77

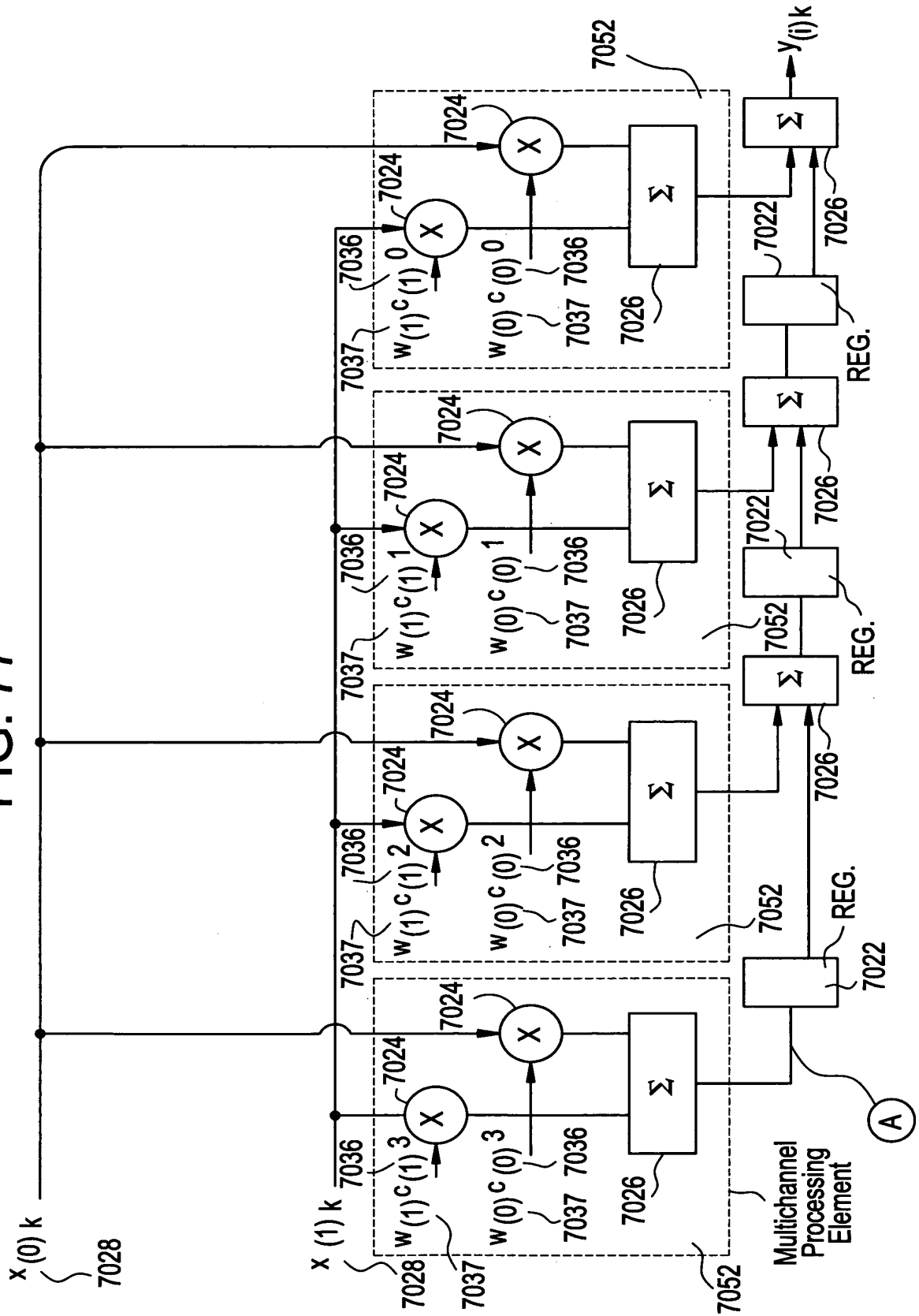


FIG. 78

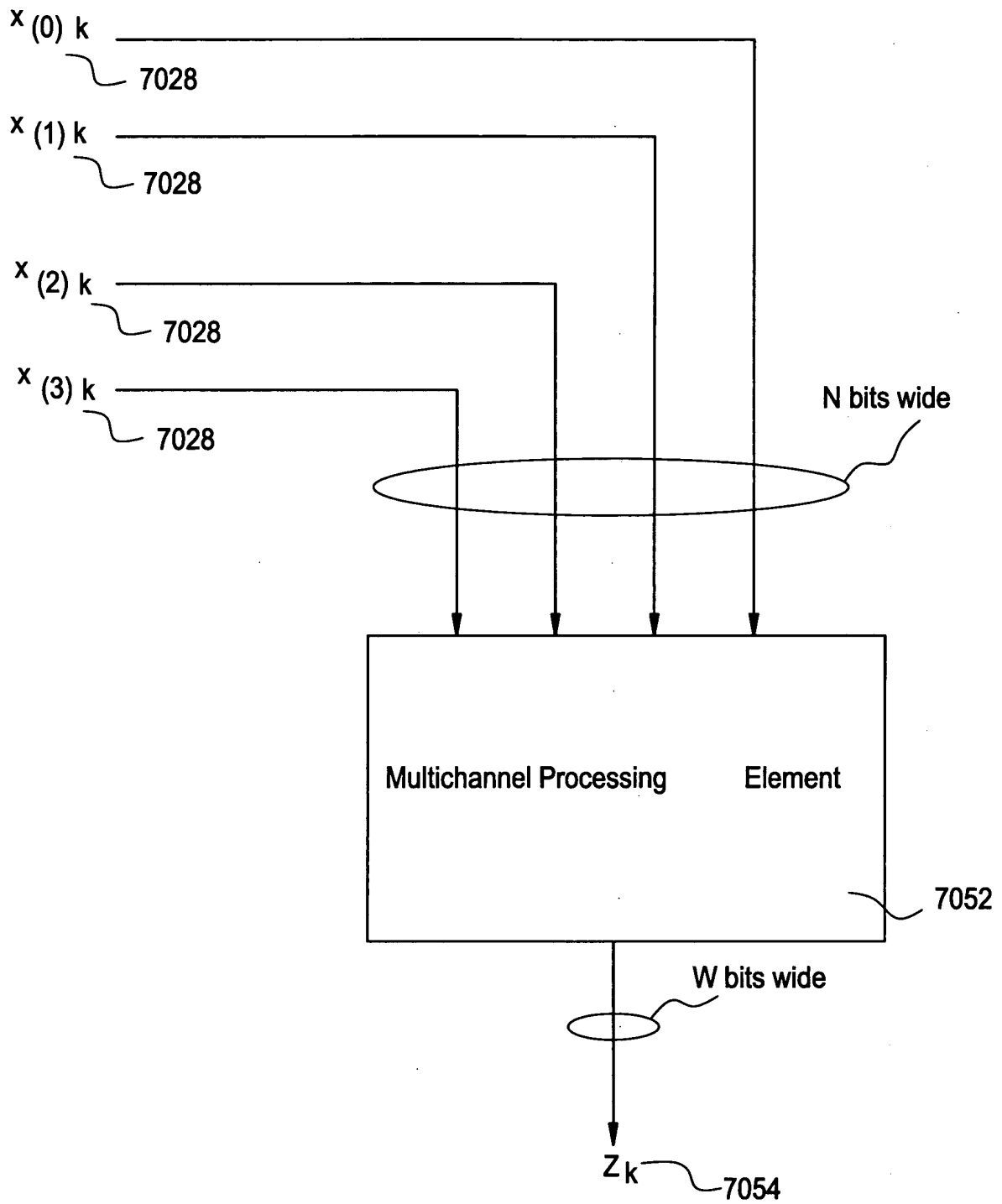


FIG. 79A

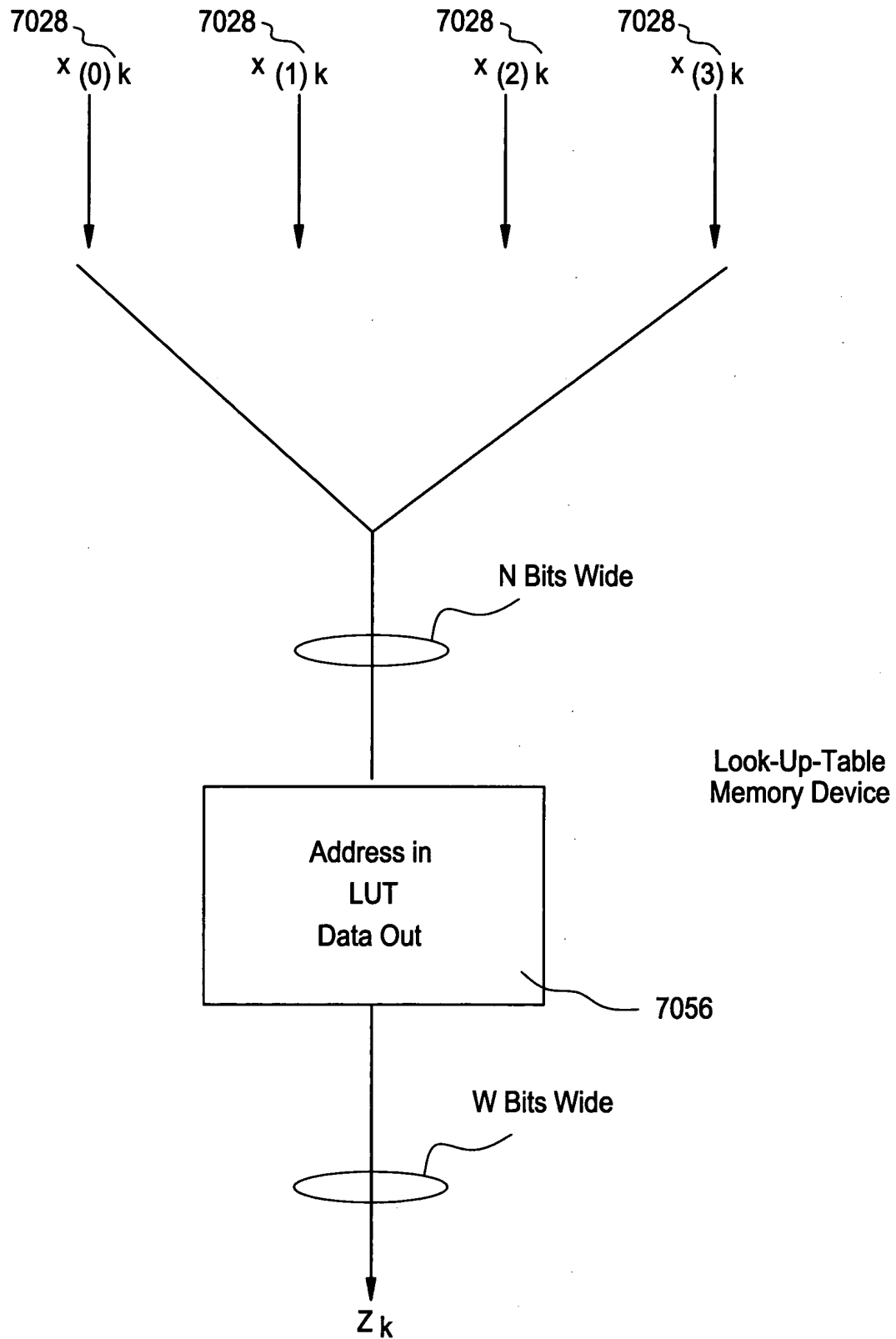


FIG. 79B

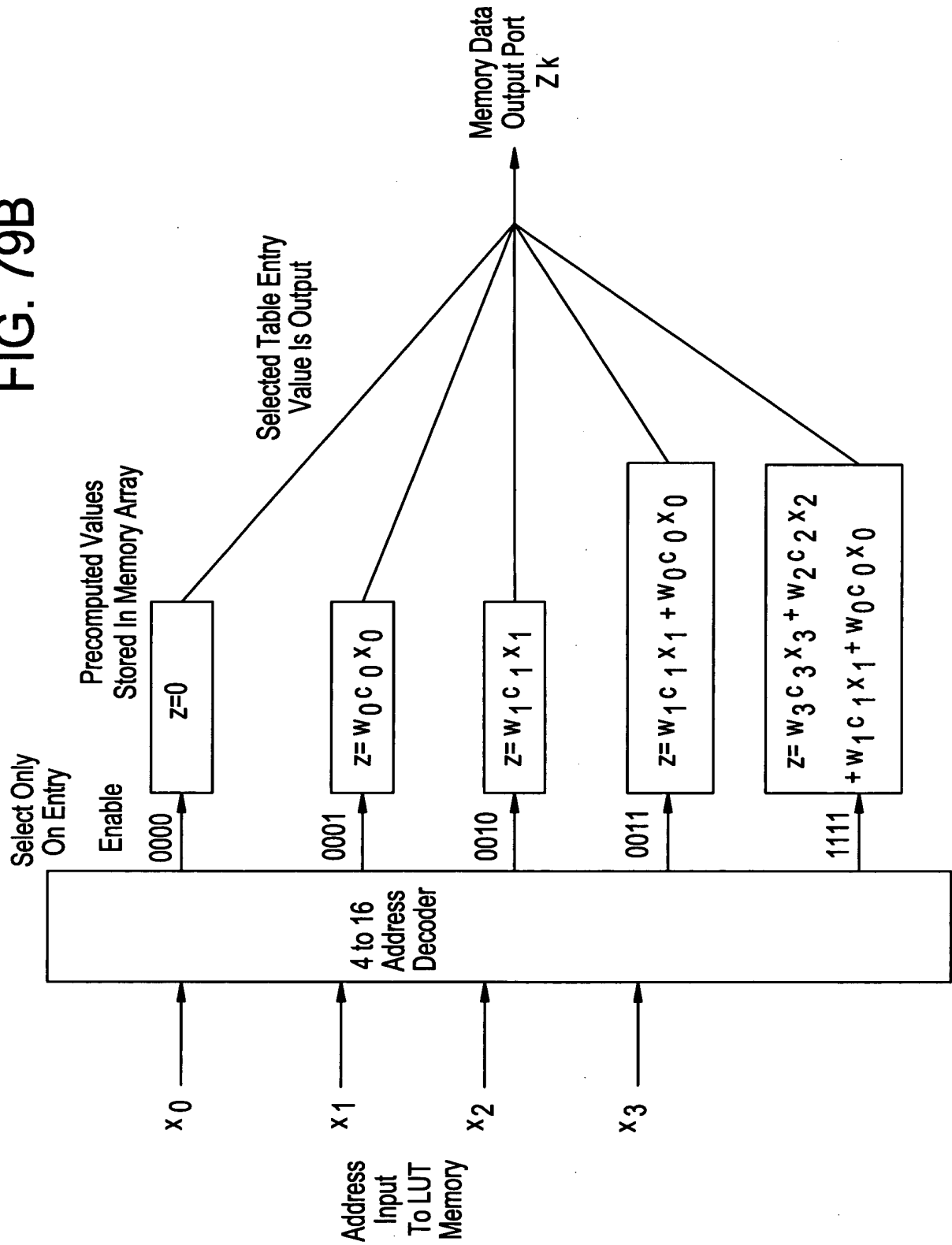


FIG. 80

